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Students' Assessment of Teachers

—Why Not?

DURGADAS GUPTA

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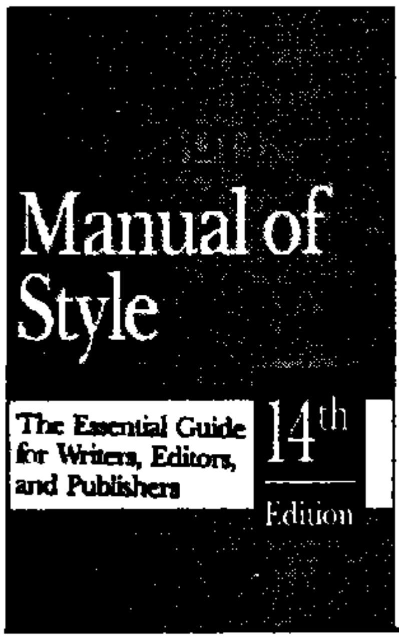

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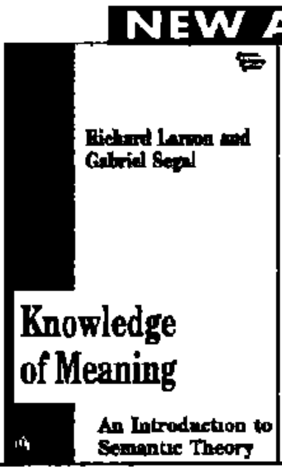
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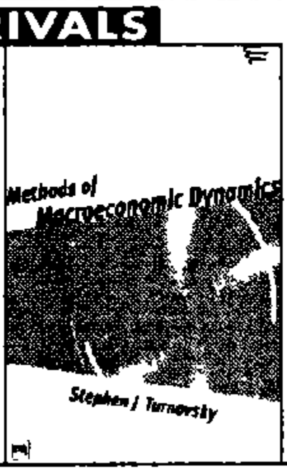

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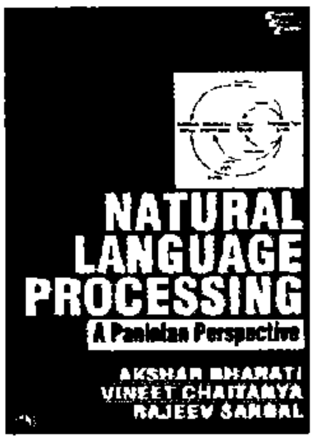

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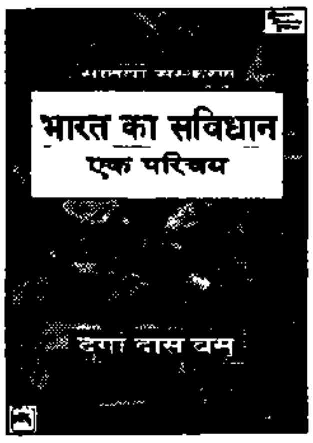

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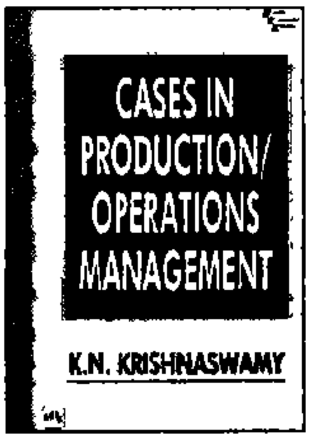

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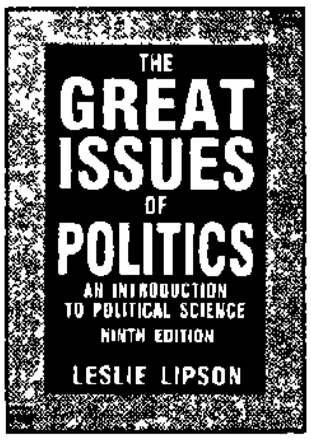
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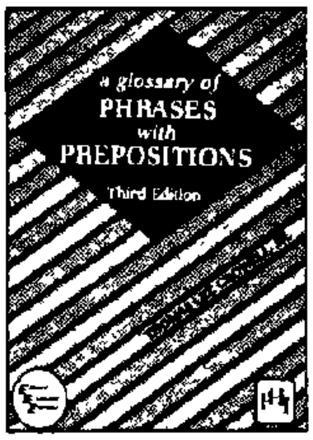

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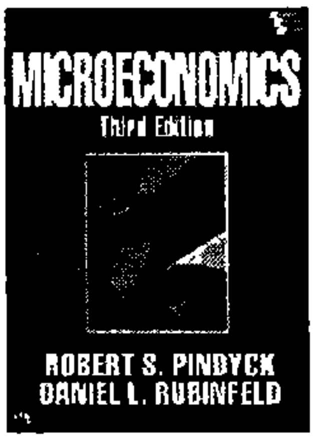

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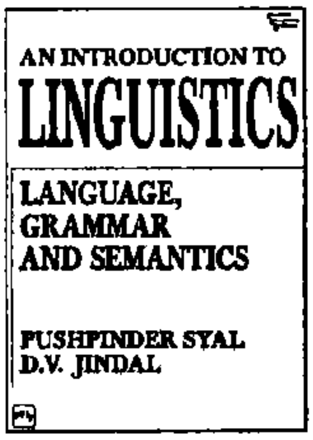
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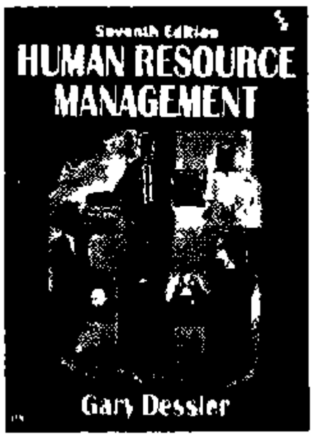

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Editor :
SUTINDER SINGH

Students' Assessment of Teachers —Why Not?

P. Thailambal*

The Rastogi Commission Report has brought to light the changing perspective of 'Education'. The erstwhile concept of deeming 'Education' a man-making process, with stress on the Renaissance spirit of enquiry and humanism, has been dealt a death blow and in its place has emerged a New Education operating on the principle of 'consumerism' with the emphasis on 'consumer satisfaction', 'cost effectiveness' and 'teacher accountability' The defects of the existing educational system have assumed such gigantic proportions that there has been a meteoric fall in the standard of higher education both at the teaching and learning levels. The consumeristic approach to education is an inevitable consequence of the pressures of social, political, cultural and scientific changes in the world at large and in India in particular. Hence this new 'wave' must be taken in its stride without much lament. Instead, the teachers, the taught and the community should rise in unison to administer the suggested 'cure' for the apparent malady. The Rastogi Report is an anxious attempt to save the existing system from further deterioration and decay

The recommendations of the Rastogi Commission have drawn a volley of protests from the teachers regarding the idea of students' assessment of teachers. All over the country this issue has escalated to the maximum pitch. Is this negative response due to academic snobbery?, Or is it a pre-emptive mechanism to ward off the detection of inefficient performance in the classroom? Whatever might be the cause, let us look into this problem, analytically

Resistance

Why do teachers resist this innovative technique? There are four major factors that are responsible for their hostile attitude 1. Culture, 2 Character, 3. Climate, and 4. The absence of critical sense.

It is the cultural ethos of the Indians that is at the root of this issue. This country abounds in *Ekalaivas*, who, without pointing out the injustice and audacity of *Drona's* demand, unflinchingly, unquestioningly and with utmost devotion and reverence presented the thumb as *Gurudhakshina*. The Gurukula system did not develop the courage to question even the questionable actions of the master; instead it cultivated the habit of hiding the truth in enforced humility and ventured to worship the *Guru*

Indian education is at crossroads today because we are trying to impart Western education through Indian cultural ethos which are diagonally opposite to each other in content, methodology and philosophy. Critical insight is essential to Western education; critical sense is curbed at birth in the Indian System.

Questioning spirit is pre-requisite for acquiring knowledge in the Western system; unquestioning faith in the *Guru* is the rock-basis of the Indian educational system.

Evaluation, assessment and appreciation are the hallmarks of the Western learning process; admiration, emulation and imitation are the typical Indian methods of gaining knowledge.

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A teacher is also a learner with a few paces ahead of the students in the Western educational context; a teacher is above judgement, criticism and evaluation in the Indian context of education.

So, Indians, as a cultural group, are averse to being assessed. Those who have never had the training to evaluate those in higher positions such as elders, superiors and teachers, those who have no tradition of adjudging a teacher's performance critically, will naturally object to the idea of students' evaluation of teachers. Their ego and prestige are at stake. Indian culture, the educational climate, the total absence of critical sense have given them this character which would not brook the judgement of the so called 'inferiors', be it students or others.

Need

Now, the next aspect of this issue, is that, if the teachers are averse to the evaluation by students, can they stop it? Are not the students assessing their teachers' performance in the classroom now? Right from the LKG children upto the research scholars, they have been doing this always, except that their opinions are not on record and they make their views quite implicit through their actions and attitudes. This explains why a certain X's classes draw full attendance, and why a certain Y's classes record mass absence.

Teachers of today, barring a minority, are not, strictly speaking, very much displeased with the evaluation by the students. Most of them do not care. The crux of the issue is that it is linked with their promotion opportunities and career advancement and that annoys them. Education is no longer a mission today, but a lucrative profession with a wide scope for monetary profit. The *Guru-Sishya* cult of yore had no use for money and hence had scant respect for it. The Master-Student of the English system envisaged an awe-inspiring, highly knowledgeable incorruptible and a dignified teacher with an admiring and aspiring student and so he was not interested in amassing wealth. Now there is neither a *Vasishtha* nor a *Radhakrishnan* amidst us. Modern teachers are the products of a highly politicised and corrupt educational system and it is appalling to note that there is an underworld of teaching, functioning with educational *'Dadas'* at the helm, who arrange 'Ghost' writers for research theses, encourage mass copying and entertain paper chasers Such teachers transact the business of education in the class where the teacher is the 'seller' of knowledge and the student is the 'buyer'. Once this equation is established, Professor Rastogi is absolutely justified in using the jargon of consumerism. He is left with no other option to set right the present chaotic situation.

Implementation

Having accepted this idea of education as consumer need, let us study the possibility of successfully implementing the students evaluation technique. As pointed out earlier, our students are not trained to be critical of their teachers 'in writing'. Yes, they may orally criticise their teachers, but when it comes to express themselves on paper, they are at a loss for want of a tradition. Now, the burden of empowering them with this ability, lies with the trend-setters. They should be educated to assess their teacher without injury to the dignity and image of the teacher and without losing their respect for him. This is apparently, impossible, right now, with the undergraduate students who are in the final year. The first and second year students may be given practice in evaluating teachers, by making a band of teachers from other colleges, invited as guests, teach the class Then the students may be handed the questionnaire intended for assessing teachers to evaluate the performance of the guest teachers. This would sharpen their critical sense. So when they come to the second and third years respectively, they would be familiar with the 'evaluation' technique. This evaluation ability can be cultivated even from the plus two level. It must be healthy and any victimisation on the part of students or teachers must be handled with severe disciplinary action Our children, now are made to lean on their parents for taking even simple decisions in their daily life. They would be helped to discover what they want by this method It is this critical sense that goes a long way in shaping individual opinion and individuality.

The Mehrotra Committee recommended three modes of evaluation The first is the Student's Assessment of Teachers. This has been a generally accepted practice in the IIT system for a long time. The IIT governing system, appointment method, promotion rules and admission norms are in no way comparable to the university and college systems. Yet a genuine attempt to restore the lost dignity and decorum of the profession must be made.

The Principal reservation of the teachers is that the students are not mature enough to sit in judgement on the teachers. What must be borne in mind by the teachers is that, the students are not expected to assess the scholarship of the teachers. But at the same time we cannot underscore the manipulation of vested interests and influence of external forces. That is why Mehrotra Committee stated "....would require that a reliable and creditable system of teachers performance should be worked out carefully and meticulously and introduced gradually and selectively".

(Contd. on page 4)

New Dimensions of Library and Information Services

Durgadas Gupta*

From Book to CD-ROM

With the sacking of Rome in 410 AD, by the Germans from central Europe, the Roman Empire founded in 27 BC collapsed in 467 AD and as a consequence thereof Dark Ages descended on Europe, lasting about 1000 years upto 1500 AD. The invention of printing from movable type by Gutenberg (1397-1468) made it possible for the human knowledge to reach millions of people who were earlier deprived of access to it. With further developments in the techniques of printing and reproduction, books became the major medium for the dissemination of recorded knowledge which became common property of mankind. These developments turned the Dark Ages in Europe into the Age of Enlightenment and Reasoning. Industrial Revolution was in fact the result of liberation of mind from superstitions and anachronisms, ultimately leading to promotion of science and engineering.

We have witnessed, since World War II, an era of unprecedented technological change that has reached dramatic proportions in the past decade the world over The countries which failed to develop technologies of their own have benefited from global technology transfer. This has loosened traditional moorings of the ancient and tribal societies, leading them into modern scientific and rational world. Thus the contribution of the printed word in human progress has been immense.

For centuries libraries remained passive storehouses of books accessible only to the elite. Public libraries after the First World War began to be dynamic institutions open to all free of charge and maintained out of public funds by the local governments. After the Second World War public libraries developed extension programmes under which they tried to reach out to the potential user through branches and bookmobiles. Service to children and the physically handicapped became an integral part of the library services. Resource sharing became a common practice through inter-library lending. This augmented resources of all the participating libraries. Public libraries began to organise cultural programmes turning themselves into community centres around which the cultural life of the community revolved.

The real breakthrough came with the invention of the microcomputers, optical disks, and other mass storage media, worldwide computer and library networks and communication technologies through sattelites, E-mail, computer graphics, and other multimedia technologies which have made possible contemporary roles of libraries as more dynamic information providers over the evolving electronic Global Information Infrastructure (GII), better known as the Global Information Superhighway.

The next logical step was the application of computers to library operations. Now through networks like Internet, a user can access information sitting at home or from his place of work without visiting the library. The end-user or the actual user who sits at the terminal can search or retrieve bibliographic records without the help of an intermediary like the library professional. The databases are so designed that they can serve end-user though he is not a computer expert. These user friendly databases save time not only of the library professional but also of the user, who can as well obtain a paper copy of the document needed.

The invention of CD-ROM has enabled a thousand page book or document to be recorded on it which can be read through a computer and a print-out taken instantly of the text at a nominal cost. Now most of the popular encyclopaedias, dictionaries, bibliographies, multi-media presentations, abstracting and indexing journals and their back volumes are coming in the handy CD-ROM format, available at one fourth the price of a hard cover copy. One CD-ROM of 550 MB storage capacity can store upto 2 million A4-size pages of the text besides sound and graphics.

The Library of the Future

These technological developments, and those which are in the pipeline, are going to change the very complexion of libraries of all categories. These will be called electronic libraries. Instead of books, these will have the optical disks which could be borrowed and used at home or anywhere through a small portable electronic reader. The storage of the electronic book will not require elaborate systems of classification and cataloguing, nor will there be any need for reference serv-

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**Director, Deptt. of Education, Ministry of Human Resource Development, and Director, National Book Trust, India, New Delhi.*

ice. The end-user will be able to retrieve the data from the databases without the help of the library staff.

Electronic libraries will become realities only after all the books likely to be in demand are available on optical disks. It will take a long time and involve a massive investment. It will also be necessary to produce electronic readers locally at affordable prices. It is apprehended that a large number of librarians will lose their jobs as their services will no longer be required. The library schools will have to drastically revise their curricula to meet the new scenario. Notwithstanding these exciting possibilities it is doubtful if electronic book will be able to replace the printed book for its advantages of handling as it can be read anywhere without the help of an electronic reader.

In the seventies and eighties there were misgivings in the minds of a larger section of employees among the public sector regarding the role of computerisation. It held up computerisation in India for a long time. The conventionally trained and working librarians may resist the transformation of book libraries into electronic libraries, unless they are assured of alternate avenues of employment.

Digital revolution has very much facilitated the job of an author. So far he had to write the text in long-hand or type it out himself on a conventional type-writer or get it typed from a professional typist who would commit a number of typographical mistakes to the annoyance of the author. Now an author can prepare his manuscript himself on a personal computer without anybody's help and make additions and alterations in the text as necessary. Computers have also given birth to digital or electronic publishing called DTP, dispensing with hand and machine compositors

These developments will particularly help the bureaucrats retrieve information themselves from the databases directly without anyone's help which will assist them in decision making. These will also be of great help to our legislators seeking relevant information on the proposed pieces of legislation and other related matters.

We are indeed at the threshold of electronic age in which electronic media will play a crucial role in the provision of library and information services.

Students' Assessment of Teachers

(Contd. from page 2)

Dr. Amrik Singh opines that this creditable system of evaluation can be introduced at two levels. The first one, as a part of the overall design; student evaluation of the teachers cannot be the only basis of rating like Peer Assessment, Self Appraisal, Pedagogic Assessment too must count. Secondly, different formulas have to be devised for undergraduate and postgraduate students.

The next point that most teachers are apprehensive about is the fact that the evaluation, in many cases, is determined by all kinds of factional, casteist, parochial and political factors. To avoid this and to make the student's assessment of teachers a part of the academic landscape, a kind of pre-conditioning must be made. Politicians, vested interests and other harmful elements must be strictly kept at bay.

A good teacher need have no fears about assessment by any one, because teaching is a joy for him. If a teacher enjoys teaching, interacting with youngsters, such a teacher would survive even in the most hostile of circumstances. If he is sincere in his approach, students would respect him and warm up to him. To be able to respond to other human beings as human beings is almost a pre-requisite of a successful teacher. Thus he would impart a great value system of culture and society. The art of teaching lies in being able to integrate what is being taught with what the student already knows. This is what makes it possible for the students to acquire new insights. Such teachers, who are able to achieve this need not worry about students' assessment.

To make a student aware of his own inner potentiality, to give him confidence and the ability for realising it and to give him a stimulus to perform better are what education is all about. Are we, as teachers, doing it? If the answer is in the affirmative why should we resist students' assessment of us? Ask yourself if you are a politicised teacher. If the answer is no, why should the assessment of students unnerve you?

The intention of the student's assessment of the teacher is to make the teacher take stock of his potentialities. The opinions of students, not only in the evaluation of teacher, but also about everything around them, must be given weightage. We must teach them to evaluate in a balanced and impartial way. An independent thinking would thus be developed and he would boldly express himself without fear of consequences. This helps both the teacher and the student. Their standards are raised simultaneously. This should be developed into a foolproof system. The important thing is to set the ball rolling, to get the system started. Even if the attempt proves half of what it is aimed at, still it is a definite gain, a clear progress towards better situation. And this progress should not be despised in view of the hurdles. It is implemented for producing a new generation of students who would know what they need. A new generation of rejuvenated teachers would emerge who would not bother about assessment by anyone including students. Let us march ahead to redeem the seemingly irredeemable situation and re-establish the lost nobility of an ancient profession.

Needed Orientation of Indian Social Scientists for Twenty-First Century

B.L. Mishra*
Manoj Kumar Singh**

Introduction

We are at the doorstep of twenty-first century. The twentieth century is witness to scientific curiosities, technological innovations, socio-cultural transformation, economic reforms and political upheavals. The trends already set in would generate multiple forces influencing pursuits of human race and the consequent welfare of the civilization during the forthcoming century. Arnold Toynbee had identities twenty one civilizations in the world characterised by their own cultural identifies, religion, socio-economic set up, technological frame and organisations. There is always some structural change in the society over time with changing characteristics and attributes which are well documented in the literature as the contributions of social scientists. The rational thinking of the social scientists has been both diagnostic and prognostic. Predictions and forecasts made during the past relate to events, interaction of social forces and probability of likely events influencing the subject matter of social scientists. The community of these scientists, keeping pace with the fast changing structural and functional characteristics of the societies have an essential role to play in safeguarding the interest and welfare of the human race in times to come They have to assist, facilitate and promote research and training activities in relation to major national socio-economic problems calling for transdisciplinary endeavours. The time induced changes in the society in the process of economic development are the mandates for social scientists to analyse the complex interactions and project their consequences for another hundred years needed for effective political commitments and policy formulations

General Scheme of Social Change

In the context of Indian sub-continent, the general scheme of witnessed socio-economic changes will have to be understood to identify the likely social stratification, powers and controls vested with the predicted social structures in relation to their pattern of consumption, conservation and commerce. In the economic jargon, Colin Clark has condensed and coined the scheme of change as (i) Primary, (ii) Secondary, and (iii) Tertiary sectors dealing with agriculture, industry and services respectively. The shift in emphasis from one sector to another during the development process have three dimensions such as (i) Economic aspects (goods and services) (ii) Occupational structures (unskilled Vs. skilled — professionals), (iii) Axial principles (experience Vs. innovations), (obsolete Vs new) and (tradition Vs technology).

Let us consider the Indian scheme of temporal changes in terms of changing priorities with respect to dimensional scenario of economic development during pre-independence (remote past), post independence and the twenty first century with matching classification given by Colin Clark as shown in Table-1.

The scheme of social change over time summarised in Table-1 appears to be in conformity with the temporal scenario of economic development in India. The social scientists have played their role in describing the social interactions of economic and occupational structures with reference to traditionalities involved in exploitation of nature for existence during the pre-independence era. The societies remained poor and the causes of their poverty were their commonsense for playing against nature with priority on agriculture, mining and fisheries. During the post-independence period, the social changes were linked with orientation to production of goods for economic growth through fabrications and experimentations. Social scientists did work on these lines to study the social interactions for economic growth.

The perspectives for twenty first century have been generalised by the sequence and pattern of development witnessed in Asia, Africa and Latin America in comparison to that of Western Europe, Japan and United States of America. The trans-continental scenario superimposed on temporal scale in the Indian context, leads us to generalise that the present socio-economic status is the symbol of secondary sector in which the priority is on production of goods and manufacturing. R and D is now an essential component of manufacturing sector witnessing the energy crisis and the games against fabricated

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nature. Rostowan analysis of development stages in India is that of "Take off". Scinetific studies to explain this stage were the mandate for social scientists to assist in policy formulations for economic growth and social welfare.

Perspectives for Social Scientists

The tendency of social changes presented in the general scheme, reinforced with the global experiences and emerical analysis, may be visualised for twenty first century. The implementation of economic reforms and globalization has started bearing fruits. GATT and WTO are instrumental in developing services like trade, finance, insurance, health, recreation and research and education. The completion for these services in terms of quality and cost would boil down to sophisticated frontier technologies and breed the professional technologies reflecting the game between individuals. Computer technology would facilitate simulations, abstractions and modelling economic development for an affluent social structure.

Agriculture sector in India is of utmost importance in terms of 70 per cent of its population drawing its sustenance and providing raw materials to manufacturing one third of the GDP The role of social scientists during twenty first century has special significance along two axes. One is the relation of economic function to the other major functions of the agrarian society. The second is the rendering of social functions from property. Autonomy of function or technical competence would be the basis of long term changes. Professionalism will assume an hieratic place in the farm sector. The control system of the emerging society would not be in the hands of farming successors but on political order. Such changes are the prospective challenges to the social scientists.

Perspectives of Agricultural Economists

The role of agricultural economists is to build up 'Option Bank' open to farmers representing various categories and operating under specific situations. The blanket recommendations to the farmers in general would be neither desirable nor feasible under foreseeable patterns of consumption, commerce and conservation practices. Economic viability of crops, enterprises or farming systems will have to be evaluated for productivity, profitability, stability, adaptability and sustainability. The desirable farming practices and the systems must be friendly to the future generations keeping perfect harmony with nature. Value added approach in trading of farm products both in domestic and foreign markets will be the principal tool of analysis during the transitional phase of economic structure (from goods and services). The studies on availability of inputs, funds and technical know how and effective transfer of new technologies for mass adoption will have greater importance in view of growing professionalism in farm sector as well. Role of computer services will get well established paving the path for new category of employment avenues. Decision making models would constitute the bulk of studies to be undertaken in future. The scale of production and service institutions would get enlarged for achieving scale economies, may be through cooperative endeavours. The behaviour of weather with probabilities would be analysed deeply for identifying production patterns amicable to nature.

Besides stress on growth with stability, twenty first century would seek to achieve sustainable development through conservation of resources. Studies on land degradation, deforestation, soil erosion and desertification would receive greater attention. The social scientists will have to equip themselves for such studies. The responsibilities for development of farm based human resources would lie with the social scientists. Well deserved attention will be given to political refugees, environmental refugees who may be victims of the breakdown in the balance between human population and life support systems.

Swaminathan while delivering Lal Bahadur Shastri memorial lecture in 1986 warned against the problem of malnutrition for want of purchasing power Baired remarked that 'Indian famines are not famines of food but of work'. Where there is work, there is money and where there is money, there is food Thus the famine of jobs will be the central preoccupation of the social scientists.

Conclusion

Social scientists will have to keep pace with the changes in social structures and socio-economic features over time. The transition of priorities from goods and manufacturing to services of varied nature amid plenty of knowledge during twenty first century would pose complex problems of observation, analysis of facts and interpretation of results. Agricultural economists will have to engage themselves in changing consumption pattern, growing commercialization and conservation of resources for sustained development of farm economy during the coming century.

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Table 1 : Generalised Temporal Scheme of Social Change in India by 21st Century

Dimensions of change	*Pre-independence Era (Primary)*	*Post-independence Era (Secondary)*	*Perspectives for 21st Century (Tertiary)*
I. Economic Sectors	1 Agriculture 2. Mining 3. Fisheries	1 Goods/products 2 Manufacturing 3 Processing	1 Trade 2 Financing 3 Transport 4 Health 5 Recreation 6 Research & Education
II. Occupational Structure	1. Farmers 2. Miners 3. Fisherman 4 Unskilled workers	1 Engineers 2 Semi-skilled workers	1. Professionals 2 Technicians 3 Scientists
III Axial Principles	1 Traditionality 2. Land Orientation	1 Economic growth 2. Game against Fabricated Nature	1. Codification of Knowledge 2 Game between persons
	3. Game against nature	3 Energy	3. Decision Theory Simulations — System Analysis
	4 Resource Limitations 5 Raw Materials 6. Common Sense 7 Orientation to past	4 Experimentation 5 Projections	4 Future Orientation

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THERE YEAR DIPLOMA IN DRAMATIC ARTS
ADMISSION NOTICE (1998-2001)

NATIONAL SCHOOL OF DRAMA, an autonomous institution, fully financed by the Government of India, Department of Culture, invites applications for admission to Three Year Diploma Course (full time and Residential) in Dramatic Arts The course starting from July, 1998 aims at development of a theatre personality by imparting training in acting, design and other disciplines related to theatre

Medium of instructions : Hindi/English

Eligibility

Essential Qualifications

1 Graduation in any subject from a recognised university in India. 2 Participation in at least 10 productions
3 Working knowledge of Hindi and English

Age Limit : As on 01.07 1998

Minimum : 18 Years **Maximum** 30 Years

Upper age limit is relaxable by five years for SC/ST candidates only

Reservation for SC/ST Candidates

Out of 20 seats, 4 seats are reserved for SC/ST candidates from Scheduled Castes/Tribes preferably from Castes/Tribes communities and families traditionally connected with the performing arts If no suitable candidate is available for admission from these categories, the seats will be offered to general suitable candidates

Selection

The Experts Committee constituted by the School will assess the aptitude and talent of the candidates & its decision will be final. Any Canvassing in this regard will be treated as a disqualification

Centres

A preliminary test will be conducted at four centres i e Mumbai, Bangalore, Calcutta and Delhi The candidates qualifying in this test will have to attend a workshop of 3 to 5 days in school premises for their final selection for which they will be paid D.A , IInd Class Train/Bus fare from the place of their residence to Delhi and back by shortest route on submission of ticket/cash receipt and accommodation on modest sharing basis

Financial Assistance

All the selected students will be given monthly scholarship of Rs 2,000/- to meet their academic expenses.

Stable Health

The School provides a rigorous training which needs physical hard work to acquire professionalism. Sound health with medical fitness from the School doctor and insurance people is one of the important requisite and pre-condition for admission

How to Apply

The Application form and Prospectus are available in Hindi and English separately, please write to Assistant Registrar (Academics), National School of Drama, Bahawalpur House, Bhagwandas Road, New Delhi-110001 mentioning the language in which the prospectus is required along with a crossed Demand Draft of Rs 200/- (Rupees Two hundred only) in favour of the Director, National School of Drama, New Delhi

Application form and prospectus will also be available from the National School of Drama Book Shop w e f **20.3.1998**

Last date for Receipt of request for Application form and Prospectus by post **30.3.1998**.

Completed application forms duly filled in by the candidate be sent to the Assistant Registrar (Academics) by **20.04.1998**.

NOTE · NO APPLICATION WILL BE ENTERTAINED AFTER THE AFORESAID DATE

Athletes' Protein Needs
Some Myths Exploded

Jawahar Lal Jain*

In recent years, there has been renewed interest in the athlete's need for dietary protein. Athletes have long believed that building muscle mass and maintaining strength necessitates a high protein intake. Even today it can be seen that weight lifters, wrestlers, body builders try to eat as much as 10-12 eggs, 1 kg. chicken/mutton or drink 1-2 litre milk per day in their quest of hunger for winning Gold medal but this is far from true.

Apart from the other constituents of food like carbohydrates, fats, vitamins and minerals, proteins are of paramount importance to the body. Various aspects of proteins can be enumerated asunder :

Functions of Proteins

The principal functions of proteins in the body are :

1. They provide material for growth (muscle protein), wear and tear of tissues.
2. Proteins present in the form of enzymes and hormones help regulate a number of important body processes.
3. Antibodies which are body defence against infections are protein in nature.
4. They provide energy (4 Kcal/gm.)
5. They are needed for formation of Haemoglobin (iron + protein).
6. They maintain acid base balance. Proteins are required for milk formation.

Source of Energy

One gram of protein provides 4 Kilo calories, but protein foods are expensive source of energy. It is preferable to use proteins for body building only, by providing enough carbohydrates and fats in the diet so that proteins are spare for body building and tissue repair. If one consumes much more protein than required, the surplus proteins are used as a source of energy only and not for body building and tissue repair. To use protein as a source of energy is a criminal waste of efforts and money because carbohydrates are richer source of calories at cheaper rate.

Sources of Proteins

Protein is obtained from the following two sources :

1. Animal protein sources —	milk, egg, meat, fish, poultry and milk products.
2. Vegetable protein sources —	Pulses, cereals, nuts, beans, oil seeds etc.

Protein contents of different sources of proteins are given in Table 1-A & 1-B.

Quality of Proteins

The proteins have 23 amino acids Of these 8 are called essential amino acids. As these cannot be synthesised by the body, these must be supplied in the diet. If any one of these is absent from the diet, protein cannot be synthesized or body tissue maintained Animal proteins are known as good quality proteins because they contain practically all the essential amino acids needed by the body and they are completely used up by the body, whereas vegetable proteins are not of good quality because they lack one or two essential amino acids. However, a combination of these foods or their combination with any animal protein food improves their protein quality and they are used better. It has not been shown that animal proteins are not essential as long as vegetable proteins in the diet are derived from a mixed source, so that an essential amino acid, deficient in one vegetable protein can be supplied by another vegetable protein which has excess of this amino acid but is deficient in some other, which is in excess in the previous one.

Metabolism

To evaluate our need for protein we need to understand how the body normally handles protein. During digestion dietary proteins are broken down into smaller units called amino acids, which contain nitrogen. The amino acids are absorbed and circulated through blood vessel to the liver The liver uses some of them to synthesize new proteins, such as enzymes and blood proteins, and control their release into the blood, where they are transported to other tissues and synthesized into proteins — especially

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in the skeletal muscles. The amino acids that are not needed for synthesis are eliminated from the body. Through the synthesis of urea in the liver, the nitrogen content of the amino acids is removed; then the kidneys excrete the urea. Since the liver controls blood concentration of amino acids, once the body received enough dietary protein for synthesis, doubling or tripling protein intake will not increase blood concentrations or the supply of amino acids to the muscles, as is generally believed by sportspersons. Rather, excess intake of dietary protein simply results in greater levels of nitrogen waste for the liver and kidney.

Protein Requirement

General : Protein requirement for normal children and adults are given in Table II.

Athletes : According to researches, the protein requirements of athletes are slightly higher than general population.

Protein needs for muscle growth are small Maximum protein gain is less than 10 gm per day. Hence achievement of maximal growth requires only an additional 10 gm of dietary protein. Further, increase in protein intake cannot stimulate an increase in muscle mass. It is generally agreed that little protein is consumed (9% of total energy) as fuel for muscular work If fats or carbohydrate are available, they are selected in preference to protein as source of energy However, increased protein intake may be important during the early stages of training to support increase in muscle mass, myoglobin, enzyme content and erythrocyte formation, and the optimal intake during this period may be as low as 1.2 gm/Kg body weight/day. For weight lifters or athletes undergoing intense strength training, optimal intake may be as high as 2.5 gm/Kg bodyweight/day maximum upto 3.0 gm/Kg body weight/day. Athletes should understand that the needs are proportional to body weight, e.g., large athletes require more protein, but they also need more food energy so that additional protein can be derived from normal intakes.

Some researchers are studying claims that protein supplements stimulate muscle growth. Others are re-examining the protein needs of endurance and strength athletes The debate about protein seems far from over. Because athletes are often looking for a quick muscle fix, they are easy prey for the seemingly scientific arguments that accompany the ads. The exaggerated claims are possible because protein supplements are sold as food supplements, which are neither a food nor a drug; they "fall between the regulatory cracks".

Is Too Much Protein Dangerous?

But a growing number of researchers are concerned that high protein diets may cause or aggravate a number of health problems.

- — Those who take protein supplements need still more water to get rid of the excess protein. This encourages further dehydration, which reduces the athlete's ability to deal with overheating and results in sub-optimal performance.
- — High protein intake leads to urinary calcium loss, which over a lifetime could be a special problem for female athletes. The amount of calcium in the urine increases by 50 to 70 mg when protein intake increases from 0.8 to 2.0 gm/Kg/day.
- — Excess intake of dietary protein may place a heavy load on the kidneys, which process the nitrogen waste generated by protein metabolism. This could contribute to the loss of functioning tissues in the kidney, leading to premature ageing in susceptible individuals and setting the stage for kidney diseases.
- — Increase in the uric acid level resulting in gout like complaints e.g. pain in joints.
- — Excessive strain on the digestive system, liver and kidney.

Therefore, it is evident that excess protein intake may actually inhibit muscle growth. As the body has no capacity to store amino acids, extra amino acids must be degraded. While synthesis and elimination of urea are normal processes, these waste products (urea and ammonia) are potentially damaging and may result in enlargement of the liver and kidney or extra load on liver and kidney.

Table I A : Protein Contents of important protein sources (gm/100 gm)

Food	*Protein*	*Food*	*Protein*
Wheat	11.8	Egg Hen	13.3
Rice	7.0	Fish	21.5
Maize	11.1	Mutton	18.5
Chana Dal	22.5	Milk cow	3.5
Masoor Dal	25.0	Milk buffalo	4.3
Moong Dal	24.0	Cheese	24.1
Urad Dal	24.0	Curd	2.3
Soya bean	40.0	Khoa cow	14.6
Groundnut	26.7	Khoa buffalo	20.0
Peas dried	19.7	Milk Powder	27.5
		Almond	20.8
		Cashew nut	21.2
		Sesame seeds (Til)	18.3

Table I B

Household measures	Protein (gms)
1 Bread slice 1 (25 gm)	1.9
2. Dal 3/4 cup (30 gm) uncooked	7.3
3 Chapati small (20 gm Atta)	3.6
4 Milk cow 1 cup (150 ml)	4.8
5. Paneer 1 cube (35 gm)	6.4
6 Egg yolk 1 (20 gm)	3.6
7. Egg white 1 (30 gm)	3.0

Table II : Protein Requirement

	Age Groups	Protein g/Kg Body weight/day
Boys	10 — 12 years	1.24
	13 — 15 years	1.10
	16 — 18 years	0.94
Girls	10 — 12 years	1.17
	13 — 15 years	0.95
	16 — 18 years	0.88
Man	18 and above	1.00
Woman	18 and above	1.00

THE UNIVERSITY OF KASHMIR, SRINAGAR

Brief Advertisement Notice

Applications on the prescribed form to reach the office of the undersigned latest by **March 15, 1998** are invited for the following posts available in the Departments/Centres/Insitutes shown against each

PROFESSORS : Arabic (1), Biochemistry (1), C O R D (1 temporary), Chemistry (1), Electronics & Computer Science (1), Geology & Geo-Physics 91), Hindi (1), History (1 temporary), Home Science (1), Library & Information Science (1), Management Studies (2), Media Education Research Centre (1), Physics (1), Psychology (1 Plan post), Political Science (1), Persian (1), Sociology (1), Sanskrit (1)

READERS : Commerce (1), Chemistry (1 temporary likely to become permanent), Distance Education (1 temporary), Electronics & Computer Science (2, one each in Electronics & Computer Applications), Economics (1), Education (1), Geography (1), Geology & Geo-Physics (2), Hindi (1), Law (1 leave vacancy), Management Studies (1 leave vacancy upto 05.09.1998), Mathematics & Statistics (3 Mathematics) Media Education Research Centre (1), Physics (1), Psychology (1 Plan post), Urdu (1 temp), Centre of Central Asian Studies (3-one each in Sanskrit, Kashmiri & Regional Geography)

LECTURERS : Arabic (3, one temporary), Biochemistry (1), Botany (3), Commerce (2), Distance Education (2), Electronics & Computer Science (2, 1 each in Electronics & the Computer Applications), Economics (1 temporary), Education (2), English (1), Geology & Geo-Physics (2), Hindi (1), Islamic Studies (2 temporary Plan posts), Kashmiri (1), Library & Information Science (2), Law (2, one temporary), Management Studies (1), Mathematics & Statistics (1 Statistics), Physics (3), Pharmaceutical Sciences (1), Persian (1), Sociology (1), Urdu (1), Zoology (2, one leave vacancy)

OTHERS : Adult Continuing Education (Assistant Director temporary 1), Audio Visual Research Centre (AVRC) (Director tenure post 1), Computer Centre (System Analyst/System Programmer 2, Plan posts), Electronics & Computer Science (Electronic Engineer, Plan posts), Population Research Centre (Senior Research Officer 1, Tenure post), State Resource Centre (Director 1, Asstt Director/Co-ordinator 1, Research Assistants, 4 Tenure Posts), University Service & Instrumentation Centre (USIC) (Technical Officer III 1), Iqbal Library (Librarian 1)

For further details regarding qualifications etc please see detailed advertisement Notice No F10(app-Gen)Adm/T W. dated 13.2.1998 A copy of the said notice can be provided to the candidate with the prescribed application form, which can be had from the Assistant Registrar (Printing & Stationery) of this University on depositing Rs 100/- only in the University Chest or by sending a Bank Draft drawn in favour of the Registrar of this University cashable at Srinagar, alongwith the necessary postal stamps **No Postal Orders will be accepted.**

Note : For appointment to the posts of Lecturers and equivalent teaching posititions a pass in National Educational Test (NET) is a must provided that the candidates who have submitted Ph.D thesis or passed M Phil by 31.12.1993 are exempted from the said eligibility test for Lecturers conducted by the UGC/CSIR or similar test accredited by the UGC

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QAISER AIJAZ
Asstt. Registrar (Admn)(T/W)

Vision for the Nation

Dr. A.P.J. Abdul Kalam, Scientific Advisor to Raksha Mantri and Secretary, Dept. of Defence R & D, Ministry of Defence, New Delhi, delivered the convocation address at the 48th Annual Convocation of Karnatak University, Dharwad. He said, "Any organisation, society or for that matter even a nation, without a vision is like a ship cruising on the high sea without any aim or direction. It is the clarity of national vision which constantly drives us towards that goal. India has stood too long in the line of developing nation. Now, all of us should strive hard to make our place among the developed nations, where the countrymen can live well above the poverty line; their education and health is of high standard; production of quality goods including exports is rising and thereby bringing prosperity for the countrymen." Excerpts

Discovery : A Mission

When I see you young friends graduating from this University, I think of sharing with you an inspiring and beautiful experience of a scientist of International repute Madame Marie Curie, who discovered Radio activity and also two elements radium and polonium, about a century ago

Madame Marie Curie had commenced the intensive research in France, for an unique radio active element, based on her earlier experiments The Curie couple requested the government of Bohemia to donate them 10 tonnes of pitchblende free of cost. The Government accepted their request. For months together both Madame Marie Curie and her husband Pierre Curie did a lot of hardwork and continued research work against all odds and extracted few grammes of radio active element from tonnes of pitchblende. On a night of November 1898, the important discovery of radio active material *Radium* was first time known to the world.

In that context, during her research work, Madame Marie Curie had once said, "Life is not easy for any of us. But what of that? We must have perseverance and above all confidence in ourselves. We must believe that we are gifted for something, and that this thing, at whatever cost, must be attained". That "something" was to throw science upon a path hitherto unsuspected and that is *Radium*. She also, in later years, not only used Radium as source of X-Ray to diagnose the injured during World War-I but also removed the pain and sufferings of the injured with the women's touch by using mobile clinic built out of her own earnings. The pain reliever, Madame Curie, alas, was not spared by radium during the research period on radio activity using ores of this material. She sacrificed her pain by removing the sufferings of many. For our young members who are assembled here, Madame Curie's life will set the purpose and meaning of life in any field that will enrich the country as every one of you, in your own gifted way, as she put it. Let us look at our Indian scene.

Our National Strength

India has one of the largest pool of scientifically trained and experienced manpower. In 1990's we have seen emergence of trained manpower in the fields of commerce, trade, economics and management as well. Therefore, we have a dream to see India emerging as an economic power. I am confident that this can become a reality within the next two decades, if we harness our vast natural resoruces and abundant intellectual prowess with a mission. This will enable us to create the national wealth, which should give health and well being to the common man, affordable high quality education to all children, drinking water to all villages and finally happiness and high standard of living for citizens.

Technology as Wealth Generator

Technology has been the main vehicle of industrial revolution for the last few decades. Economic development in today's global environment is linked to technological advancement in the country. Technology gives the strength, and also political and economic structure to the nation. We already have some technological successes. India has had a green revolution in 1960s, followed by Operation Flood for milk production. Indian Remote Sensing Satellite was launched in 1980s and in 1989 *Agni* was launched for the first time. INSAT was put into orbit and satellite communication was established. We have developed our own super-computers and *Prithvi* missile system. Polar Satellite Launch Vehicle (PSLV) has placed the IRS satellite in sun synchronous orbit. Indigenous Advanced Light Helicopter (ALH) and Main Battle Tank *Arjun* are on the way to the user Armed Forces. The state-of-the-art high performance Light Combat Aircraft (LCA) has already rolled out from the fabrication line and is getting ready for its flight tests. Thus, our scientists and engineers are engaged in developing world class technology systems. If we further harness this technological strength with an integrated approach to meet the needs of the industry and the society, it will make the nation prosperous and self-supporing.

The government has adopted policies of techno-economic liberalisation which have already given a certain push to the economic development. India is today world's 15th largest economy, has seventh largest land area and fourth largest rail system. Milk output in India is second largest in the world. Similarly, in cereals such as wheat and rice and also in fruits & vegetables, we are again the second largest producer. However, we need to increase our productivity in a big way. Productivitywise, we are 54th in respect of wheat and rice and 20th in milk production. This is an excellent challenge for the Indian scientists and technologists to raise the productivity by providing appropriate technology and management to our agriculturists and rural population. Thus a significant transformation is possible in this area in a short period of time, if the productivity multiplies. Technology can bring similar required changes in other sectors of economy as well. Thus technology holds the key to national prosperity.

Voyage for National Development

When a nation can build its own satellite launch vehicle (including various types of spacecraft), its own missile systems and when a nation can build its own fighter aircraft using complex technologies, which are enormous integrated efforts, with multiple partners, it can also enrich its industries with competitive technologies through industry, R&D and academia working with mutual trust. Industry enriched with R&D is an important index for national growth. In the present global scenario, only strength respects strength. There is no doubt, therefore, that indigenous technology development is the only key for India to attain more strength. Technology is the main driver not only for the defence capability but also for economic strength and national development. The need of the hour is technological exellence and self reliance. We have to develop technology for generating national wealth. So let us arm India with technology. Our young teams with a mission, will have multiple opportunities in many fields.

Technology Vision

A nation without a 'Vision' perishes It is the vision that drives the progress of the nation. More than 500 experts drawn from various fields have prepared the "Technology Vision 2020" document for the country, which was released by the Prime Minister in August 1996. This vision document consists of 17 major technology packages. It deals with agricultural infrastructure and production, food-processing, health care, electric power, water-ways, life sciences & bio-technology, inland transportation, civil aviation, engineering industries, electronics, information & communication technology, material technologies and strategic industries, etc

The Technology Vision Report aims to develop variety of indigenous technologies to transform India into a developed nation by the year 2020. With effective use of indigenously developed technologies in the next quarter century some of the visible results by the year 2020 will be, enhanced wealth of the nation, abundant production in various areas, well being of the people and national security.

Developed India

Any organisation, society or for that matter even a nation, without a vision is like a ship cruising on the high sea without any aim or direction. It is the clarity of national vision which constantly drives us towards that goal. India has stood too long in the line of developing nation. Now, all of us should strive hard to make our place among the developed nations, where the countrymen can live well above the poverty line; their education and health is of high standard; production of quality goods including exports is rising and thereby bringing prosperity for the countrymen. In physical terms it would mean our endeavour to increase our productivity by 10% each year. Friends, you are in a fortunate position to be able to contribute towards a stronger India in the coming decades with Technology Vision documents in front of you

Concluding Remarks

Nations are built by imagination, vision and untiring efforts with enthusiasm of generations We all have a great responsibility to build tomorrow's India, which will be strong in core competence areas, may it be technological strength, industrial infrastructure, economic growth, political stability, societal unity, welfare and happiness. Young members of the nation are an asset for its growth. Parents and teachers have a greater responsibility towards our youth. Let them think big. Our youths have to dream. Dreams transform into thoughts and thoughts result into actions. Proactive actions become the foundation for realising the vision to make India a 'Developed Nation'. *"Our young minds have to be ignited. This Ignition is more powerful compared to any resource on the earth, under the earth and above the earth".*

CAMPUS NEWS

Women's Empowerment Through Education

The Department of Adult, Continuing Education & Extension of University of Delhi, and Delhi University Researchers Association jointly organised a discussion on Women-Empowerment through Education and Training. About 65 teachers and researchers participated in the discussion.

Inaugurating the Meet, Prof. K.R. Sharma from Chinese and Japanese Studies Department pleaded for encouraging women's education and training on two counts, namely, it brought self esteem among the women and helped in better quality of family life. He lamented that despite availability of avenues for education and training young women were not coming forward due to Socio-cultural taboos The situation was however changing rapidly and the coming century would see a remarkable change in the situation, he observed.

Mrs. Rashmi Mishra, Founder Chairperson of Vidya, narrated how her programmes of vocational training for about 600 adult women at IIT Campus had brought a qualitative change in the life of the women both at personal and family levels. However she felt that male members of the community did not appreciate the changing attitude of women as they (women) took independent decisions. She stressed promotion of skill training for the women by non-formal means. Dr.(Mrs). Neelam Sinha, Head of Student Support Services at National Open School stated that National Open School accepted the need of providing skill oriented courses for the educationally disadvantaged and designed special courses for physically, mentally and socially handicapped. However she felt that women-empowerment should not lead to disintegration of society. Ms. Rama Devi from National Open School, citing an example from her experience observed that in some cases despite women being highly educated and willing to take up jobs were not allowed to do so by male members of family

Prof. (Mrs.) Lipi Mukhopadhyay from Indian Institute of Public Administration opined that in certain sections of society particularly in tribal communities women played a dominant role in all decision making processes despite their being illiterate. The social customs provided women an upper hand in such societies. Mr. Ravi Sharma of DACEE cited the example of some backward communities of Northern India where women asserted themselves in all important issues like marriage, occupation and social customs. He felt the need of an integrated development model for seeking women participation in all matters.

Dr. D.D. Aggarwal, convenor of the discussion in his concluding remarks, observed that women empowerment should not result in disintegration of family and society but should strengthen the societal fibre by equal participation. Representatives of organisations like Delhi University Women Studies Centre, SCOPE-PLUS also participated in the discussion.

Golden Jubilee National Seminar

Kurukshetra University organised a two-day Golden Jubilee National Seminar on 'Fifty Years of India's Independence: Continuity and Change'.

Inaugurating the seminar Prof. J B. Chaudhry, Vice-Chancellor, CCSHAU, Hisar said the story of India's progress was essentially the story of the great developmental strides taken in agriculture. He said, even as India had left behind the years of shortages and famines and there was a foodgrain buffer of nearly 30 million tonnes, the country still needed to sustain its production growth by 6 to 7 per cent per annum to meet the future requirements of an increasing population. Modernizing of agriculture and transfer of technology must go hand in hand with increasing employment opportunities, he said. Prof. Chaudhry also pointed out the dangerous implications for the country because of the increasing gap in words and actions, and the rapid decline in work values and work culture so evident across the country.

Dr. Vir Chopra, Executive Chairman, Rashtriya Jagriti Manch, New Delhi, in his keynote address, said that in the past 50 years India had in fact lived through a kind of quasi-democracy, a democracy in the narrowest sense of the word because economic misery and poverty had scarcely been touched. Institutionalized corruption, Dr. Chopra said, had reduced public offices to vocations.

Dr. M.L. Ranga, Vice-Chancellor, Kurukshetra University, who presided, pointed out that even after 50 years of freedom, India remained divided on caste and creed lines. He cited Mahatma Gandhi who had just before his death mentioned the growing disunity in Indian society as the greatest danger to free India. He also stressed the need to improve the quality, level and availability of primary education and focus on rural development. He felt it was imperative to check the migration from rural to urban areas as also to create opportunities for self employment. The hunt among youth for government jobs was breeding corruption and leading to disillusionment in our youth, Dr. Ranga pointed out.

The papers presented at the seminar included (i) Crisis of Stability in Indian political system; (ii) Tribals and Issues in History Writing; (iii) Haryana : Society & Culture since Independence, (iv) Contribution of three Lals in the development of Haryana; (v) Administration of Anti-poverty programmes in Rural Haryana . Retrospect and prospects; (vi) Cultural Crisis in Haryana; (vii) Haryana an Economic Overview; (viii) Indian Army and its British Legacy; (ix) Continuity and Change in Foreign Policy Making in India; (x) Fifty Years of India's Foreign Policy : The Challenges Ahead; (xi) Fifty Years of Indian Independence : Problem of Cultural change; (xii) Fifty Years of Indian Independence from Value Based Politics to Value Free Politics; (xiii) Democracy in India; (xiv) Haryana, Society, Economy and Politics : Historical perspective; (xv) Liberalization and its Economic Impact on Women in India; and (xvi) Fifty Years of Independence from Nehruism to Liberalization.

Lt. Gen. O.P. Kaushik, Vice-Chancellor, M.D. University, Rohtak was the chief guest at the valedictory session. Speaking on the occasion he said discipline, moral values, integrity, honesty, love for the country, dedication to one's job were the remedies which India required today. He observed that internal insurgency was posing a serious threat to the integrity of India but he was confident that India would march forward.

Dr. Subhash C. Kashyap, former Secretary General, Lok Sabha, in his valedictory address, cautioned towards the rapid erosion of moral values and integrity from public life. He was disheartened to note how truth was being over-shadowed by falsehood. Fortunately Indian democracy was well supported by the common masses, he observed.

Prof. S S. Johl, former Vice-Chancellor, Punjabi University, who presided, felt that there was special need to be proud of the Indian farmers who in spite of widespread corruption in the entire administrative system had taken the country ahead. Much needed to be done and for this he stressed the teaching community's role.

Dr. M.L. Ranga, Vice-Chancellor of host university, in his concluding remarks said that though India had achieved much, far more remained to be done.

Indo-US Scientists Meet

A three-day Indo-U.S. workshop was recently held in New Delhi to formulate specific collaborative projects and to finalise the modalities for their implementation in the field of earth and atmospheric sciences.

The workshop was pursuant to a Memorandum of Understanding signed between the Governments of India and the U.S. on December 16 in Washington. Under the MoU, the National Aeronautics and Space Administration (NASA), and the National Oceanographic and Atmospheric Administration (NOAA) of the U.S. and the Department of Space and Department of Science and Technology agreed upon a programme of cooperation in earth and atmospheric sciences to be implemented through joint scientific projects, exchange of scientists, and sharing of meteorological data.

The themes of cooperation that had been identified under the MoU included development of operational techniques to predict the intensity and movement of cyclonic storms and the associated storm surges, global satellite data products utilisation for understanding of monsoon circulation and land surface processes, use of the products in atmospheric and oceanic circulation models and studies related to atmospheric chemistry.

The 25-member American team at the workshop was headed by Dr. James C Dodge of NASA, and Dr James Purdom of the NOAA. The Indian team, on the other hand, was led by Dr R.R. Kelkar, Director General of Meteorology, India Meteorological Department (IMD).

Scientists participating in the three-day brain storming session included experts from the Indian Institute of Tropical Meteorology, National Centre for Medium Range Weather Forecasting, National Remote Sensing Agency, Space Application Centre, Physical Research Laboratory, Indian Space Research Organisation and Indian Institute of Technology, Delhi, besides IMD.

Speaking at the inaugural function, the Minister of State for Science and Technology, Prof. Y.K. Alagh, and the American Ambassador, Mr. Richard F. Celeste, recalled the long tradition of collaboration between India and the US in the various fields of science and technology and expressed the hope that the new initiative would benefit both the countries from improved techniques of weather analysis and forecasting of different space and time scales, and in particular better utilisation of satellite data in prediction of monsoon and cyclones.

The others who spoke on the occasion included Prof. V.S. Ramamurthy, Secretary, Department of Science and Technology, and Dr. K. Kasturirangan, Secretary, Department of Space and Chairman, Space Commission, besides Dr. Kelkar, Dr. James C. Dodge, Dr. James Purdom, and Dr. S.K. Srivastav, Additional Director General of Meteorology, IMD.

Course on Information Handling Technologies

A five-day National Training Course on Modern Technologies for Information Handling was recently held at the All India Institute of Medical Sciences, New Delhi in association with Medical Libraries Association of India. The main focus of the training was on the practical and theoretical aspects of automation of the libraries, On-line searching, CD-ROM and CD-Networking, Multimedia, Digital Libraries, Electronic Publishing and Internet etc

Inaugurating the training programme Prof. M.C. Maheshwari, the Dean of the Institute, emphasised the need and importance of such courses in the context of the explosion of knowledge and information and its retrieval through modern technologies. He also desired the organisation of more such courses not only at the national level but also extending their scope to the SAARC countries. Mr. P. Jayarajan, Head, Library and Information Services, British Council, in his keynote address, spoke about the use of available computer technologies in various fields specially in the field of the libraries. He also stressed the necessity of focusing library services towards meeting the specific needs and the requirements of the readers of the library.

During the course, the participants learned various information technologies through hands-on work experience. The services and expertise of various resource persons on information and computer technologies was available to trainees.

Mr. D.R. Kalia, Former Librarian, National Library, Calcutta and ex-UNESCO expert distributed the certificates to the participants of the training. He stressed the necessity of applying latest technologies in the libraries for their smooth functioning. Prof. A.P. Srivastava, former Librarian, Delhi University, in his valedictory address, stressed the need of cooperation between libraries in sharing their resources in view of the steep rise in the cost of books and periodicals. He hoped that such type of trainings will continue to be organized by the AIIMS Library as part of its continuing education programmes

The training programme was attended by fifty participants comprising R&D Scientists, teachers in Library Science, Health Scientists, Librarians, Information Science Specialists and Documentalists.

Courses in Youth and Development

The Indira Gandhi National Open University (IGNOU), in partnership with the Commonwealth Secretariat, purposes to launch a certificate and diploma programme in youth and development through the distance education mode from July, 1998. Professor R.G. Takwale, Vice-Chancellor, IGNOU and Professor Prabha Chawla, Director, School of Continuing Education and programme coordinator, said this would be a major step in making education international. Prof Chawla said the programme would be open to all learners who have cleared the 10 plus 2 examination or its equivalent.

Initially, 550 students would be enrolled which would be run on a pilot basis at Delhi, Bombay, Calcutta, Madras and Chandigarh.

National Information Centre on Management

A National Information Centre on Management (NICMAN) has been jointly set up by the Indian Institute of Management, Ahmedabad (IIMA) and the Department of Scientific & Industrial Research (DSIR) under NISSAT programme. The centre is being developed around the nucleus of Vikram Sarabhai Library (VSL) of IIMA. The database being developed covers global databases on management science, applications on management concepts, business information, applied management research, etc.

The objectives of the Centre and to (i) serve the information needs of management students, teachers, researchers and managers; (ii) prepare value-added information products and services and cases; (iii) strengthen the resource base, and provide organizations access to international databases for management information; (iv) collect, process and disseminate information on various sectors of the economy and conduct industry and sector studies; (v) establish a network of management and other allied libraries to strengthen

(Contd. on page 18)

Population Enviroment Dynamics — 3

	Population (millions) mid-1997	*Natural increase (annual, %)*	*Projected Population (millions) 2025*	*Deaths under Age 5 per 1,000 children 1995*	*Per cent under Age 5 under weight 1990-96*	*Annual Renewable Fresh Water Available per capita (cubic meters)*		*Per cent with access to safe water 1990-96*	*Per cent with adequate sanitation 1990-95*	*Cropland available per capita (hectares)*		*PPP per capita[1] (int'l $) 1995*	*CO_2 emissions per capita (metric tons) 1992*
						1990	*2025*			*1990*	*2025*		
World	**5,840**	**1.5**	**8,036**	**70**	—	**9,255**	**5,896**	—	—	**0.26**	**0.16**	**6,045**	**3.8**
Europe	**729**	**-0.1**	**706**	**15**	—	**8,699**	**7,918**	—	—	**0.40**	**0.37**	**13,134**	**8.3**
Albania	3.4	1.7	4.6	40	—	6,385	4,499	—	—	0.21	0.15	—	1.2
Austria	8.1	0.1	8.2	7	—	11,681	10,893	—	—	0.20	0.18	21,250	7.2
Czech Republic	10.3	-0.2	10.2	10	—	5,848[a]	5,470[a]	—	—	0.33[a]	0.31[a]	9,770	13.1
Denmark	5.3	0.1	5.4	7	—	2,529	2,559	—	—	0.50	0.51	21,230	10.4
France	58.6	0.3	62.7	9	—	3,262	3,021	—	—	0.34	0.31	21,030	6.3
Germany	82.0	-0.1	76.2	7	—	2,520	2,616	—	—	0.16	0.16	20,070	10.9
Greece	10.5	0.0	10.2	10	—	5,763	5,979	—	—	0.38	0.40	11,710	7.2
Hungary	10.2	-0.4	9.3	14	—	11,095	12,238	—	—	0.51	0.56	6,410	5.8
Ireland	3.6	0.5	3.6	7	—	14,273	12,880	—	—	0.27	0.24	15,680	8.7
Italy	57.4	-0.0	54.8	8	—	3,279	3,574	—	—	0.21	0.23	19,870	7.2
Netherlands	15.6	0.3	17.4	8	—	6,019	5,530	—	—	0.06	0.06	19,950	9.2
Norway	4.4	0.3	5.0	8	—	97,383	87,519	—	—	0.20	0.18	21,940	14.1
Poland	38.6	0.1	40.8	16	—	1,469	1,348	—	—	0.39	0.35	5,400	13.5
Russia	147.3	-0.5	131.4	30	—	19,493[b]	17,733[b]	—	—	0.79[b]	0.72[b]	4,480[d]	5.6
Spain	39.3	0.1	39.0	9	—	2,826	2,954	—	—	0.51	0.54	14,520	5.7
Sweden	8.9	0.0	8.7	5	—	21,030	18,460	—	—	0.33	0.29	18,540	6.6
Switzerland	7.1	0.3	7.5	7	—	7,316	6,422	—	—	0.06	0.05	25,860	6.4
Ukraine	50.7	-0.6	46.0	24	—	—	—	—	—	—	—	2,400	11.7
United Kingdom	59.0	0.2	57.2	7	—	2,090	1,952	—	—	0.12	0.11	19,260	9.8[2]
Yugoslavia	10.6	0.2	11.4	23	—	11,549[c]	10,780[c]	—	—	0.34[c]	0.31[c]	—	—

Notes :1 PPP Per Capita : Purchasing Power Parity is an estimate of a country's gross national product (GNP) per person The estimates are converted to international dollar by adjusting for the buying power of the country's currency.

2 Data collected from a year or period other than the one listed; differ from the standard definition; or refer to only one part of a country.

a. Figures are for the former Czechoslovakia (the Czech Republic and Slovakia).

b. Figures are for the former USSR.

c. Figures are for the former Yugoslavia, not the present Yugoslavia (Serbia and Montenegro).

d. Estimates for the economies of the former USSR are preliminary.

Source Population Reference Bureau, 1875 Connecticut Ave , NW, Suite 520, Washington, DC 20009 USA.

(*Contd. from page 15*)

the resource base; (vi) use appropriate information technology for internal management, netowrking and marketing; and (vii) develop and conduct training/teaching programs for professionals of library/information centres in organizing, designing and developing, and marketing of information products and services

The Centre will among other things, conduct research for assessing user needs, developing appropriate products and services and marketing strategies; conduct information technology assessment and develop innovative applications for storage, retrieval and dissemination; develop and conduct training for internal as well as external library and information professionals for improving decision making and marketing skills; analyze information and prepare reports and industry studies; provide library facilities, provide documentation and information services including computerized information retrieval; provide database search service; develop close cooperation among libraries/information centres for exchange of information and resource sharing; and provide reprographic services.

It is proposed to expand the range of services and attempt value addition for serving the external clients both academic and business and industry. The programme would be implemented in phases. In the first phase the services proposed to be offered include (i) indexing and current awareness services to external clients (both academic and business and industry); (ii) abstracting service from own database as well as CD-ROM based databases and extend to external clients; (iii) database search service using own database and CD-ROMs to external clients; access to external clients for case bibliography and develop electronic delivery system i.e. through E-mail or floppy diskettes; selected industry profiles, country profiles, and management digest/executive summaries.

In the second phase, additional services would include: Industry/Country information service; Management Digest/Executive summaries; a system for online delivery, wherever possible. The third phase is likely to achieve delivery of above services through all the three delivery systems i.e. hard copy, floppy and online.

The Centre would share resources with VSL of IIMA for base materials. In addition, the Centre would make efforts to create a network of management institutions' libraries particularly the IIMs and other national level institutions, to promote effective use of resources by academic as well as business and industry segments.

With the expertise, skills and experience available at the IIMA, the centre would also focus on training programmes to reorient the library and information professionals to adopt and implement marketing programmes for their library/information centre. This would include organizing, designing and developing, and marketing of information products and services.

Gandhi and the 21st Century

Gujarat Vidyapith, Gandhi Peace Foundation and Gandhi Vichar Parishad recently organised an international seminar on Gandhi and the Twentyfirst Century. His Holiness, the Dalai Lama, inaugurated the seminar in which nearly 125 persons of eminence from Russia, Finland, Germany, U.S.A., Canada, Mexico, Pakistan, Nepal, Thailand, Philippines, Indonesia, Bangladesh and Sri Lanka took part in the deleberations. The participants included eminent academicians and thinkers, life-long students and practitioners of Gandhiji's philosophy, workers from grassroots organizations and people's movements.

Prof. Ramlal Parikh, Chancellor of the Gujarat Vidyapith, who presided over the opening session, explained how non-violence had become imperative for all as the futility of violence was fully established. He drew the attention of the seminar to U.N. Resolution declaring first decade of 21st Century as a decade of Non-violence and year 2000 A.D. as a year of Culture of Peace and Non-violence. Shri Ravindra Varma, Chairman of the Gandhi Vichar Parishad, in his keynote address, stated that humanity was threatened because of centuries old attitudes of mind which must change into an attitude of harmony and reconciliation.

The seminar examined the theme in the light of the problems appearing on the horizon of the 21st century, and the grave crises confronting humanity. Particular attention was devoted to the threat to survival posed by violence, warfare, terrorism, cruelty, torture and other practices, and attitudes that undermined the integrity of the individual and harmony and cohesion in society; the use of violence as a means to settle disputes, and its futility and suicidal character that had been exposed by the weapons that could cause total indiscrimate mass destruction; the threat to the eco-system posed by the pursuit of greed and the brand of materialism and consumerism resulting in the depletion of irreplaceable natural resources, pollution, increasing disparities and anti social attitudes; the sociological problems particularly relating to family.

K G Medical Institute Fellowships

The K G Hospital and Postgraduate Medical Institute, Coimbatore has announced fellowships in the specialities of cardiology, emergency, intensive medical care, neurology, nephrology, ophthalmology, orthopaedics, obstetrics and gynaecology, proctology (general surgery), radiodiagnosis and urology. The duration of the course is six months and the selected candidates are eligible for a stipend of Rs. 4,000 per month. Eligibility is an MBBS, MD or an MS degree. The registration fee is Rs 6,000. Further details may be obtained from the Director, Medical Education, K G Hospital, Coimbatore- 641 018.

IUCAA Research Scholars 1998

The Inter-University Centre for Astronomy and Astrophysics (IUCAA) invites applications for its graduate school leading to a Ph.D. degree in Astronomy and Astrophysics. Selection for the academic year 1998-99 will be made on the basis of a written test and interviews to be held in Pune in the first week of July 1998. The academic programme will commence in August 1998.

Selected students will undergo graduate courses in physics, astronomy and related areas for two semesters. Satisfactory completion of the courses will allow students to register for a Ph.D. programme. The graduate courses will be organised in collaboration with the National Centre for Radio Astrophysics (NCRA) of the Tata Institute of Fundamental Research (TIFR), Pune. The total duration of the Ph.D. programme, including the graduate school, will be 4 years.

Students with M.Sc. (physics/applied mathematics/astronomy/electronics) or Bachelor's or Master's degree in engineering or technology with adequate background in physics and mathematics are eligible to apply. Candidates with an engineering or technology background and interest in experimental physics are also encouraged to apply. Candidates expecting to obtain their degrees by July 1998 may also apply. All selected candidates will be required to clear the UGC-CSIR NET examination within one year of admission to the research programme, if they have not already done so.

The last date for receipt of applications is April 1, 1998. Further details may be obtained from the Coordinator, Core Programmes, IUCAA, Post Bag No. 4, Ganeshkhind, Pune-411 007.

News from Agricultural Universities

Manpower Development in Fisheries

The Indian Council of Agricultural Research (ICAR) with the World Bank funding of about $ 240 million proposes to start a project to train manpower in the fisheries sector. This was revealed by the ICAR Director General Dr R S Paroda while speaking at a seminar on 'Vision on Indian fisheries of 21st century,' held in Mumbai recently. He said it was for the first time that the World Bank had come forward with such a huge fund for human resource development in this field.

This would be under the 'national agricultural technology project' (NATP) and training would be given on coastal, brackish and irrigated fresh water aquaculture within the country and abroad, he said.

Vocational training, counselling, library facilities, information technologies would also be included, he added. 'Fish export worth one million US dollar, constitute one third of the total export of the country. India has several favourable factors to improve its growth in this sector and with good manpower training the quality of the export product can also be improved,' he said.

ICAR was also planning to introduce a department or atleast a subject on fisheries at the graduate and undergraduate level in the universities and had already introduced two extra courses from this year at the Centre for Fisheries Education (CIFE), he said.

News from UGC

Countrywide Classroom Programme

Between 8th and 14th March, 1998 the following schedule of telecast on higher education through INSAT-1D under the auspices of the University Grants Commission will be observed. The programmes are telecast on the Doordarshan's National Network from 7.15 to 8.00 a.m. every day except on Saturdays & Sundays. These programmes are also telecast on Doordarshan's National

Network from 6.00 to 7.00 a.m. four days a week i.e. on Tuesdays, Thursdays, Saturdays and Sundays. On DD2 University Video Lecture Courses will be shown at midnight between 0000-0030 hrs. and in the morning between 10-10.30 a.m. on Monday through Friday.

Hindi Programmes are being telecast on Mondays, Wednesdays & Fridays from 6.00 to 6.30 a.m.

8.3.98

"Round Table-9"
"Shekhawati Frescoes"

UVLC

No Telecast

9.3.98

"Physics of Music-1 The Magic Flute"
"Understanding Cast Iron"
"Race to Save the Planet-1 The Environmental Revolution"

UVLC

"Origin & Historical Growth of Saivisam & Other Minor Sects"
"Introduction of Cells"

10.3.98

"Browsing the Frontiers of Information Technology-1"
"Manufacturing Medicines-1"
"Plastics Recycling — An insight"
"Steel Story"
"Race to Save the Planet-2 : Only One Atmosphere"

UVLC

"Heridity Environment"
"Riemann Integration-1"

11.3.98

"Arsenic Contamination-2 : Analysis of Water for Arsenic"
"Copper : Extraction"
"Race to Save the Planet-3 Do You Really Want to Live this Way"

UVLC

"Home Lighting"
"Ocean Deposits & Coral Reef-II"

12.3.98

"Minerals — Their role in Mordern Civilization"
"Modelling as a Career"
"Social Realism & the Rise of the Novel"
"Question Time-57"
"Fresh Water Ecology"
"Copper : Occurrence & Mining"
"Race to Save the Planet-4 In the Name of Progress"

UVLC

"Indian Federation : Rational"
"Concept & Measurement of National Income-I"

13.3.98

"Rafting Down the Barak"
"Copper Chemistry"
"Race to Save the Planet-5 : Remnants of Eden"

UVLC

"Concept of Motivation"
"Introduction : Business Statistics"

14.3.98

"Dissection of Some Triangles"
"Motivation"
"Solar Energy — An Answer to Energy Crisis"

UVLC

No Telecast

Hindi Telecast

प्रातः 6.00 से 6.30 बजे तक

9.3.98

"आपका स्वास्थ्य, आपके हाथ-3"
"योगेश्वर अरविंद"

11.3.98

"निष्क्रिय स्थापत्य भवन-2 : वास्तुकला"
"भारतीय कला में पुरुष-1"

13.3.98

"फॉरनसिक सांईस : फिंगर प्रिंट्स"

UNIVERSITY NEWS

Form IV

(See Rule 8)

1.	Place of Publication	New Delhi
2	Periodicity of Publication	Weekly
3	Printer's Name	Tara Art Press New Delhi
	Whether Citizen of India (if Foreigner, state the country of origin)	Yes
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4	Publisher's Name	Sutinder Singh
	Whether Citizen of India (if Foreigner, state the country of origin)	Yes
	Address	Association of Indian Universities, AIU House, 16 Kotla Marg, New Delhi-110 002
5	Editor's Name	Sutinder Singh
	Whether Citizen of India (if Foreigner, state the country of origin)	Yes
	Address	Association of Indian Universities, AIU House, 16 Kotla Marg, New Delhi-110 002.
6	Names and addresses of individuals who own the newspapers and partners or shareholders holding more than one per cent of the total capital	Association of Indian Universities, AIU House, 16 Kotla Marg, New Delhi-110 002.

I, Sutinder Singh, hereby declare that the particulars given above are true to the best of my knowledge and belief.

Sd/-
Publisher

BOOK REVIEW

An Exemplary Beginning

C.S. Subba Rao*

Malaysian Journal of Library and Information Science. Faculty of Computer Science & Information Technology, University of Malaya, 50603 Kaula Lumpur, Malaysia. Semi-Annual. Vol. 1, No. 1, July 1996 & No. 2, Dec 1996, ISSN 1394-6234 RM $15 (Domestic); US $ 15 (Foreign)

The Malaysian Journal of Library and Information Science (MJLIS) publishes original articles based on professional policies, practices, principles and progress in the field of Library and Information Science (LIS). The Journal aims to provide a forum for communication among Library and Information Professionals, to introduce new concepts, systems and technology.

MJLIS is indexed in LISA and *Journal of Academic Librarianship*.

For 1996, the July and December issues of Volume one are published. First look may be the best look that impresses any user Approximately around 100 pages an issue, the Ist issue contains 7 articles and the second 9 articles.

In production the MJLIS rivals any U.S. or European levels of quality. The care exerted in contents and editing, make it clearly rank among the best in the sphere of LIS.

It is always suspect that Vol. 1, No. 1 is always very good for any journal and deterioration starts from 2nd issue or Volume 2, if the foundations are ill laid. MJLIS keeps equally high standards in both the issues, and among all the papers included. The editorial Board, and the International Review Board, with allotted functions seem to assure a healthy future

The papers are expected to be on many 'P's, viz. "Professional Policies, Practices, Principles, and Progress" in LIS, to introduce "new concepts, systems and technology" Since the Faculty of "Computer Science and Information Technology" is behind the publication, the objectives have a systems and technology preferences. For the Editorial Board, the problem will be, how to combine the aspects of systems and Technology as tools of Information Science, and overcome the trend of systems and Technology *qua* Systems and Technology, with very lean implication on Information Science. LIS does not cease to be a subject, nor does it get twisted out of recognition, because of tools.

The scientific advances India had made during Ranganathan Era, remain eminently valid, though in Techno-systems terminology. The new machino-terminology and gathering experience of tools, has set the clock back on Thought and Ideas in LIS. Making research results relevant and applicable to all concerned spheres of knowledge, is the aim of LIS, not limited to Machine operations, or Telecom protocols. In the systems of Information Science, Machine operations, or Telecom protocols, are subordinate to subserve the purpose of fast and relevant dissemination of research results. Missing the trees for the wood or vice versa, should not happen in the field of LIS. It is just a caution for the future, and the first two issues of MJLIS have steered clear of this fault. But the caution is to be underlined, in the interest of LIS progress.

Contents

An analysis of contents of volumes reveals :

Vol. 1, no. 1 : Technology based : 5 papers; Bibliometry based : 2 papers; Vol. 1, no. 2 : Technology based : 3 papers; Bibliometry based 4 papers ; Policy 2 papers.

Technology based 8 papers include (1) Developing a CDS/ISIS based online cataloguing and Information Retrieval interface for use in small libraries by Teh Kang Hai & Wang San foong; (2) The use of CD-ROM Databases by Malaysian Postgraduate students in Leeds by Nor Edzan Nasir; (3) An enquiry into the Information Retrieval Efficiency of LISA plus Database by B.K. Sen; (4) The coverage of Indian Literature in Social Science Bibliographic Databases on CD-Rom-Sociofile, Econ-Lit, LISA and Psych Lit by N. Parvathamma; (5) An overview of Electronic Publishing by T.C. Ling, Mashkuri Hajii Yaacob and K.K. Plang; (6) Introducing MAKLUM the General Reference Expert Adviser Developed for a University Library by Zainab Awang Ngah and Nor Elize Mohd. Zaid; (7) From tour to problem solving : Evolution of Library instruction programmes in Tun sevi Lanang Library by Juhana Salim; and (8)

***President, Ranganathan Research Trust, New Delhi.*

Assessing the Impact of IT on University Library services in the 21st century by Ding Choo Ming.

The papers clearly reveal the adoption of software for research, experimentation, publication and the need for Asian Databases. The authors are conscious of use of tools for library work and need for improving and redesigning the tools. It is significant that only one article is by a non-Malaysian, though a staff of the faculty. That means Malaysia is taking bold firm steps to adopt computers in library services.

Bibliometry based 6 papers include (1) Outstanding cited and most significant publications of R. Chidambaram, a Nuclear Physicist by B.S. Kademani and V.L. Kalyane; (2) Reading interests and information sources of school going children : a case study of two English Medium Schools of Rourkela, India by Chittaranjan Panigrahi and K.C. Panda (Questionnaire survey and Analysis); (3) Scientometric Portrait of Nobel Laureate Pierre-Gilles De Gennes by V.L. Kalyane and B.K. Sen (Biographical Bibliometry of a French Physicist and observations. Scattering of papers does not follow Bradford's law.), (4) Authorship pattern and collaborative research in the field of Zoology by V. Vimala and V. Pulla Reddy; (5) Scientific Periodicals in the University of Malaya Library — a Bibliometric evolution by B.K. Sen and Zainab Awang Ngah; and (6) Library and Information Science literature and Lokta's law by B.K. Sen, Che Azian bin Taib and Mohd. Faris bin Hassan.

It is significant that 4 of the 6 articles are Indian, and in the other two B.K. Sen is associated with Faculty Members of the school. Perhaps Prof. Sen is laying a bibliometric base at Kaula Lumpur, by exhibiting work models. Biographical Bibliometrics of famous careers lays down the standard of a Genius. Resource evolution of a library as a scientiometric study is highly beneficial to the researchers and contributes to economy of library services. Established laws like Lotka or Bradford could have exceptions or variations.

Original and creative trends are shown in research as applied to a working Library processes. Again, it is not Statistics *qua* Statistics, but applications at grassroot level that show variations, and set thinking.

The two *Policy Papers* include (1) Towards a knowledge culture : Managing the Information Advantage by Syed Salim Aga (Information Technology should lead to information content and its effective and integrated management with key technologies. The totality should not miss 'knowledge culture of society', and (2) Unesco's Public Library Manifesto-1994 by Afifa Rahman.

Even in the sphere of policy, balance is struck and the central idea is not lost that impact on research is an essential expectation of Information Technology The contradiction between LDcs (Least Developed Countries) and Dcs (Developed countries) as Information poor and rich is in good contrast, if Global culture perspective is held up.

Conclusion

In summary all the articles are original based on research and considerable effort. Malaysian Journal of Library and Information Science is as good as any Westren publication, but deep digging in all humility of approach. On all the topics, Information Technology, Bibliometry, Information Policy, it exhibits steady confident digging. Surely higher levels of development await Malaysia in the LIS field. The two year Master Degree Course of Information Technology and Library and Information Science combined Faculty is a good original base.

I wish that Malaysian Library and Information Science Association were the base besides the Faculty. Without associating with practical Library and Information Science, a little neglect by Faculty, will change the emphasis of Malaysian Journal of Library and Information Science to theory oriented research, away from LIS floor realities. Statistical studies and application of formulae without applying them to LIS data, is another theoretical danger Similarly computerisation as a study in itself, may do justice to hard and soft wares, but would not benefit information dissemination or research impact. The meaningful merger of the three paths and their interdependence have to be underlined.

Review Meeting

Every year or two, if the Editorial Board holds a Review Meeting of MJLIS, to study, improve and note limitations; it would prevent fall in standards by neglect or lack of notice, and could also mean raising quality levels

Other Areas

Notes, News, Research Results, LIS articles of Research Value, with brief annotations, Review articles on Conferences/Seminars, Progress of Research projects, etc would enlarge membership, readership, and widen the cross-section of contributors. But all these aspects are matters of 'Policy', like avoiding advertisements, and giving an 'Index' to a volume.

Congratulations to the faculty staff of the Computer Science and Information Technology, University of Malaya, for an exemplary beginning.

ILLUMINATING

R.P. Singh*

Subhashini Aryan. Himadri Temples (A.D. 700-1300). Shimla, Indian Institute of Advanced Study. Pp. 129 + 51 Plates. Rs. 600/-.

Temples of India form an important part of this country's ancient heritage. Besides being an expression of the preference one happens to have for one's deity, a temple is a lasting memorial of one's faith and devotion. While good deal of material is available on temples of South, Central and West India, the temples of Himachal have not been so carefully studied and written upon. The present study for number of reasons deserves our gratitude and commendation. These reasons are: 1) This study brings to light special features of Himachali temples which have been given a new name 'Himadri temples' by several scholars for their style, 2) She has traced their history and discussed them against an all-India background of temple building which clearly points out that this region was not that isolated as it appears, and 3) She has discovered one peculiarity of the region that when a stone temple was destroyed and no ruler or a rich person was forthcoming to restore it, the locals put up a wooden structure at the site to mark the existence of a stone temple built earlier.

Of course during the course of study, Subhashini Aryan, Fellow of the Institute of Advanced Study from 1987 to 1990, learnt about the unfortunate Indian tradition whereby instead of sharing precious documents and information with those who valued them the Brahmins let them go into limbo by feeding them to termites and shrouding them in secrecy.

The author selected the period (700-1300 A.D.) which was marked by a flurry of temple building activity across the sub-continent. In the South the Gangas, the Hoysalas, the Rashtrakutas, the Cholas etc have left numerous temples that bear testimony to their architectural heights which they sealed and left them for the posterity to admire. In the Himachal area temple building activity does not go back to beyond 5th century A.D. and definitely it has no temples to match the Buddhist and Jaina architecture found elsewhere. But whatever is available is enough to compare and contrast these with what post-Gupta period has given to the rest of India.

The scholar has taken the help of ASI to reproduce 51 plates which constitute an important part of the present research monograph. Temples were built initially as miniature shrines that dot the entire region but gradually proportionate structures with good jointings started appearing to mark a gradual evolution in the craft of temple building having large well-cut stones, dressed to level beds and placed one upon another without any mortar or cementing substance. Temple building in Himachal furnishes enough evidence of *Pratihara* influence as well as Kashmiri impact.

The basic form of Himadri style is that of a square *garbhagraha* which contains the image of worship. They may have a *mukh-mandapa* but it was not necessary. The windows in these temples start appearing after the symmetrical windows were crafted in the exquisite Baijnath temple of the 13th century. Varied sources of influence could be easily discerned both in the basic structure, decorative motifs and other embellishments. The scholar has been able to record these influences which put these temples as part of the temple building activity in common with Madhyadesa, Kashmir, Orissa etc, thereby according these temples a distinct place in the architectural heritage of India.

A bigger and more elaborate work is expected of the author. But this expectation does not take away the credit she rightly derserves for the present work. An excellent piece of research with an equally illuminating volume to match.

Indian Statistical Institute
203 Barrackpore Trunk Road
Calcutta-700035

Senior Diploma in Statistics (SDS) and Junior Diploma in Statistics (JDS), examinations will be conducted at Bangalore, Bombay, Calcutta, Delhi, Hyderabad, Lucknow and Madras centres (if adequate number of candidates apply) in May/June 1998. Information Booklet containing Bye-laws and Syllabi and application forms will be available on sending (i) self-addressed envelope (size 25 cm x 20 cm) and (ii) advance payment of Rs 70/- (Rupees Seventy only) by BANK DRAFT endorsed in favour of INDIAN STATISTICAL INSTITUTE, CALCUTTA or in cash at our Cash Office here (1100 hrs to 1400 hrs) Application forms, duly filled in, with normal fees etc. must reach the Secretary, Examinations Committee, latest by **31st March 1998** or by **9th April 1998 with a late fee of Rs. 20/-.**

The JDS and SDS are recognised by the Government of India as equivalent to B Sc in Statistics and M.Sc in Statistics respectively for employment purpose only.

**Dean, Research (Retd.) NCERT, A-4/206, Kalkaji Extn., New Delhi-110 019.*

THESES OF THE MONTH

A list of doctoral theses accepted by Indian Universities

HUMANITIES

Philosophy

1. Ashok Kumar. **Samkaleen Bhartiya darshan mein vyakti aur samaj kee avadharna: Ek alochanatmak evam tulanatmak adhyayan.** (Dr S N Roy), Department of Philosophy, Vinoba Bhave University, Hazaribag

Religion

1. Nadvi, Mohd Shoeb. **A critical study of sources used by Ibn-e-Jarir Al-Tabari in his Tafseer-Jame Al-Bayan-fi-Tafseer Al-Quran.** (Prof Abdul Aleem Khan), Department of Religion, Aligarh Muslim University, Aligarh.

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1 Adhlakha, Meenu. **Kankhal, Haridwar ke bhittichitron kee vishya vastu, chitranshaili evam takniqui: Ek adhyayan.** (Dr A B Verma), Department of Drawing and Painting, Hemwati Nandan Bahuguna Garhwal University, Srinagar.

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1. Harnalkar, Suchitra. **Lasya Manjri ka sameekshatmak adhyayan.** (Dr Puru Dadhich), Department of Dance, Devi Ahilya Vishwavidyalaya, Indore.

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1 Agarwal, Subodh Kumar. **A study in the romantic heritage of Charles Lamb and his influences.** D Litt. Department of English, Hemwati Nandan Bahuguna Garhwal University, Srinagar.

2. Kulkarni, Swati R **Humanism in Hemingway.** (Dr P V Aoley), Department of English, Nagpur University, Nagpur.

3 Prasad, Shakuntala **The role of female characters in drama of Henrik Ibsen.** (Dr P P Dayal), Department of English, Ranchi University, Ranchi.

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1 Dubey, Mithilesh Kumar. **Yask evam Panini ka tulnatmak adhyayan.** (Dr Dinanath Tiwari) Department of Sanskrit, Kameshwar Singh Darbhanga Sanskrit University, Darbhanga.

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5. Tiwari, Surendar. **Bhattikavya mein nirupit dharmik, rajnitik, samajik evam arthik sthitiyon ka vivechan.** (Dr Uday Shankar Pandey), Department of Sanskrit, Kameshwar Singh Darbhanga Sanskrit University, Darbhanga.

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2 Bahuguna, Jayanti. **Madhya Paharhi kee upboli Salani ka bhasha vaigyanik adhyayan.** (Dr Uma Maithani), Department of Hindi, Hemwati Nandan Bahuguna Garhwal University, Srinagar

3. Gupta, Rama **Swatanrata ke bad kee Hindi kavita mein jan sangharsh evam jan chetna.** (Shri Shyamsunder Vyas), Department of Hindi, Devi Ahilya Vishwavidyalaya, Indore

4. Madhu Malati **Yug chetana ka swarup aur swatantrayottar HIndi geeti kavya.** (Prof N K Sharma), Department of Hindi, Hemwati Nandan Bahuguna Garhwal University, Srinagar

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6. Masram, Sunita. **Kranti kavya ke praneta Kavivar Shri Krishan Saral ke kavyon ka anusheelan.** (Dr L C Ahirwal), Department of Hindi, Guru Ghasidas University, Bilaspur.

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10. Sharma, Kshama **Athwen dashak mein vyavsayik Hindi patrakarita ka katha sahitya ke vikas mein yogdan.** (Prof Ashok Chakrdhar), Department of Hindi, Jamia Millia Islamia, New Delhi.

11. Sharma, Renu. **Vindhya Kokil Bhaiya Lal Vyas ka**

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12 Sharma, Suresh Kumar **Laxmi Narayan Lal aur unke natak.** (Dr Annapurna Bhadoria), Department of Hindi, Jiwaji University, Gwalior.

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16 Sinha, Nidhi **Santpanapdas ke sahitya ka sanskritik adhyayan.** (Prof N K Sharma), Department of Hindi, Hemwati Nandan Bahuguna Garhwal University, Srinagar

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2 Saifi, Sabina Tasadduque Husain **Allama Jameel Mazhari Hayat aur adabi khidmat.** (Dr M A Rahmatullah), Department of Urdu, Nagpur University, Nagpur

3 Shamim Ahmad **Delhi mein Urdu ka ehtijaji adab, 1801 se 1947 tak.** (Prof Shamim Hanfi), Department of Urdu, Jamia Millia Islamia, New Delhi

4 Sheikh, Abdul Hameed **Said Kamtivi: Shakhsiyat aur fan** (Prof Arshad Jamal), Department of Urdu, Nagpur University, Nagpur

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2 Hazarika, Ramen **Swadhinata-purva Assamiya aitihasik upanyas.** (Prof K D Goswami), Department of Assamese, Dibrugarh University, Dibrugarh

3 Mahanta, Arundhati **Krisnar karmavikas aru Assamiya sahitya.** (Prof K D Goswami), Department of Assamese, Dibrugarh University, Dibrugarh

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3 Dubey, Asha **Swatantrata Sangram mein Bilaspur Nagar ka yogdan, 1885 se 1947.** (Dr O P Malhotra), Department of History, Guru Ghasidas University, Bilaspur

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6 Joshi, Gopal Krishna **Growth of political sources in Rajasthan: A case study of Bikaner.** (Prof G S L Devra), Department of History, Kota Open University, Kota.

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(Department of Education)

COMMONWEALTH SCHOLARSHIP PLAN NEW ZEALAND AWARD-1998

Applications on plain paper as per prescribed format are invited from Indian Nationals residing in India for the above mentioned Commonwealth Scholarship for higher studies, research leading to Ph.D. in New Zealand (PREFERENCE WILL BE GIVEN TO MERITORIOUS FEMALE CANDIDATES) Number of nominations to be sent Four *Subject-Fields* (a) Soil Science (b) Dairy Technology *Minimum Qualifications Requires* Master's Degree in the subject or allied Fields with minimum 60% marks in respect of Soil Science and Dairy Technology Where percentage of marks are not available and grades are mentioned, the candidates must indicate the conversion formula adopted by the University/Institution and should also indicate equivalent percentage of marks. *Essential Experience* At least 2 year's teaching/research or practical experience on 30th April, 1998 after acquiring the qualifications prescribed above *Age* There is no upper age limit but only those applicants will be considered who have completed their Master's degree in the subject concerned not earlier than 31st July, 1993 *Value* (a) Travel to and from New Zealand by the shortest route and economical class as arranged by the authorities of the donor country (No provision has been included for the expenses of the dependents) (b) Expenditure on board and lodging, books and other study material, tuition fee, internal travel related to the studies and medical care will be met by the New Zealand Government 2 Each application must be accompanied by attested copies of (a) Certificate of age (b) Marks-sheets of the qualifying examination (c) All degree/diplomas/certificates 3 Candidates who have already been abroad for study/training/specialisation either on Scholarship or on their own for a period exceeding six months are eligible to apply only if they have been in India for at least two consecutive years after their return from abroad as on 31 7 1998. 4. Applications in subject field other than those specified above will not be considered 5 Applications of candidates who are abroad will not be considered 6 Candidates must furnish a clear and precise programme of study/research (minimum 500 words) justifying their studies in New Zealand 7 Those who have already done Ph D in India or abroad need not apply 8 Candidates who do not possess the requisite qualifications need not apply 9 Candidates should have adequate knowledge of Geographical situation, cultural heritage of India and the Donor country 10 Documents sent alongwith the applications will not be returned Hence candidates are advised to send only the photocopies of the certificates, etc duly attested by competent authority (Self attested certificates will not be accepted). 11 Since these scholarships are offered by Foreign Governments, applications should invariably be submitted in English only 12 Experience has to be supported by documentary evidence 13 Candidates must have good knowledge of written and spoken English (The donor country reserves the right to request evidence of having passed an accredited English language test) 14) Employed candidates must send their applications through their employers with a 'No Objection Certificate'. They will not be called for interview unless the certificate is forwarded with the application Application through proper channel should also reach this office by the last date fixed for the purpose 15. Mere fulfilment of requirements as laid down in the advertisement does not qualify a candidate for interview. Interview letters in a particular subject are sent only to the best candidate in order of merit after their applications are judged by a duly constituted Selection Committee of Experts 16 Applications not in the prescribed proforma and applications received after the prescribed date and incomplete applications will not be considered. 17 Canvassing in any form will be a disqualification. 18. The Selection Committee's decision about candidates for interview or selecting a candidate for nomination will be final NO REPRESENTATIONS IN THIS REGARD WILL BE ENTERTAINED. *LAST DATE* Candidates should apply for the above scholarships on thick plain paper (preferably typewritten) with recent passport size photograph duly affixed, furnishing the details/particulars in the given format to the UNDER SECRETARY (ES-4 SECTION), EXTERNAL SCHOLARSHIPS DIVISION, MINISTRY OF HUMAN RESOURCE DEVELOPMENT, DEPARTMENT OF EDUCATION, A1/W3, CURZON ROAD BARRACKS, KASTURBA GANDHI MARG, NEW DELHI-110001 latest by **20th April, 1998.**

APPLICATIONS RECEIVED LATE WILL NOT BE ENTERTAINED.

PROFORMA FOR APPLICATION

Recent Passport size photograph duly signed to be pasted

1 Name of the scholarship scheme
2 Subject
3 (i) Name of the candidate with full mailing address (in Block Letters)
  (ii) Full name of Father/Mother/Guardian
  (iii) Sex Male/Female
  (iv) Marital Status
  (v) Nationality
4 Date of birth and the state to which the candidate belongs.
5 Whether member of SC/ST (A certificate from the competent authority should be attached).
6 Academic record starting from High School/Higher Secondary (attested photostat copies of certificates to be attached)

Name of Exam the Univ Board/ Instt	Year of passing	Division class with position, if any (in case no class is awarded and only grading is done the conversion formula may be mentioned)	Percentage of marks obtained and position if any	Subjects taken

7 Details of professional practical training and Research experience specifying the period and number of papers published/ previous employment with name and address of employer with date of employment
8. Nature of present employment with date of appointment, designation and the name and address of the employer
9 Have you been abroad/If so give full particulars of the countries visited and the period of stay. Also mention the date, month and year of return to India (purpose of visit also to be indicated)
10 Proposed programme of study/research and training, also specify (i) The work at present engaged in, (ii) Nature and programme of study/research/training desired. (iii) Future plans/ prospect after the proposed studies/research/training and (iv) How are these related to the advancement of knowledge of science and technology of India.

Place SIGNATURE OF CANDIDATE
Date :

NOTE : Employed persons must send their applications through proper channel.

davp 97/717

Physical Research Laboratory
P.O. Box No. 4218, Navrangpura
Ahmedabad 380 009

(Advt. No. 1/98)

Doctoral and Post-Doctoral Research Opportunities

Physical Research Laboratory (PRL), Ahmedabad offers excellent research opportunities in various areas of Physical and Earth Sciences as outlined below:

PHYSICS: (i) ASTRONOMY, ASTROPHYSICS AND SOLAR PHYSICS; (ii) EARTH SCIENCES AND SOLAR SYSTEM STUDIES; (iii) LASER PHYSICS AND QUANTUM OPTICS, (iv) NON-LINEAR DYNAMICS, COMPLEX SYSTEMS AND COMPUTATIONAL PHYSCIS, (v) PLANETARY ATMOSPHERES AND AERONOMY; (vi) THEORETICAL PHYSICS

a. RESEARCH SCHOLARSHIP (Ph.D.) PROGRAMME : Eligibility First or High Second Class M.Sc. in Physics/Chemistry/Applied Mathematics/Geology/Geophysics/Oceanography Physics and Mathematics essential at B.Sc. level. Those appearing for M Sc. (Final) this year may also apply

Scholarship: Rs 4000/- p.m. and a book allowance of Rs. 3000/- per year for four years.

b. PROJECT ASSOCIATESHIP: Eligibility. same as in (a).

Stipend & scope - Rs. 4700/- p m. Awarded initially for one year, but may be continued upto three years To work in specific experimental programmes and associated theoretical/modelling activities. A few of those who do exceptionally well may be considered for permanent absorption in the Laboratory

c. POST DOCTORAL FELLOWSHIP PROGRAMME:

Eligibility: Young scientists with Ph D degree in Physics, Chemistry or any branch of Earth Sciences. Those who have submitted their Ph D. thesis are also eligible to apply.

Stipend & Tenure: Rs. 5500/- p.m (Rs. 5800/- for those with Ph.D. degree). The tenure is for one year but extendable for another year subject to satisfactory progress

For all the three categories: (i) stipends are likely to be revised soon and, (ii) medical care will be provided. For category (**a**) hostel accommodation will be provided. For categories (**b**) and (c) either hostel accommodation or Rs. 650/- p.m. as house rent (in case of non-availability of hostel accommodation) will be provided.

Application forms may be obtained from the **Administrative Officer-I** at the address mentioned above. **Last date for receiving the duly completed application forms for all the three categories (a, b and c) is April 15, 1998.**

CLASSIFIED ADVERTISEMENTS

Inter University Consortium

for DAE facilities
University Campus, Khandwa Road,
Indore-452 017
(Advertisement No. 1/98)

Inter University Consortium for DAE Facilities (IUC-DAEF) is an autonomous institution established by the UGC, New Delhi with headquarters at Indore and Centres at Indore, Bombay and Calcutta IUC co-ordinates research/projects from scientists from all Indian Universities on major facilities like Dhruva reactor, Variable Energy Cyclotron, INDUS-I etc created by Department of Atomic Energy and in addition maintains supplementary research facilities at these centres Indore and Bombay centres have supporting equipment and other research facilities like ESCA, XRD, EXAFS, SAXS and facilities for studying magnetic, dielectric and transport properties at low temperatures

Applications are invited for the following positions in this Institution :

a) **SCIENTIST-D** Two Posts (at Mumbai Centre)

Pay Scale Rs 3000-100-3500-125-4500

Maximum Age Limit Not more than 40 years as on 1 1 98

Minimum Qualification & Experience A good academic record with Ph D degree and post doctoral work in experimental condensed matter science with research in X-ray/Neutron diffraction particularly from disordered materials, or soft condensed matter and physics with X-rays

b) **SCIENTIST-C** One Post (at Indore Centre)

Pay Scale Rs 2200-75-2800-EB-100-4000

Maximum Age Limit Not more than 32 years as on 1 1.98

Minimum Qualification & Experience M Sc (Physics) with consistent good academic record

c) **ENGINEER-C** One Post (at Mumbai Centre)

Pay Scale Rs 2200-75-2800-EB-100-4000

Maximum Age Limit Not more than 32 years as on 1 1 98

Minimum Qualification & Experience M Sc (Physics) or B E (Mechanical Engineering) with experience in design and fabrication of scientific research equipments.

d) **JUNIOR ENGINEER/TECHNICIAN** Three Posts (2 at Indore Centre & 1 at Mumbai Centre)

Pay Scale : Rs 1400-40-1600-50-2300-EB-60-2600
Rs. 1640-60-2600-EB-75-2900

Maximum Age Limit . Note more than 30 years as on 1.1 98

Minimum Qualification & Experience B.Sc with Physics and Maths/Physics & Instrumentation/Instrumentation or Diploma in Mechanical Engineering B.Sc qualified candidates should have working experience of atleast 2 years in a research laboratory Minimum of 60% marks in the qualifying examination. Depending on experience the candidate may be placed in one of the above pay scales

e) **ADMINISTRATIVE OFFICER (ACCOUNTS)** . One Post (at Indore Centre)

Pay Scale Rs 2200-75-2800-EB-100-4000

Maximum Age Limit : Not more than 40 years as on 1 1 98

Minimum Qualification & Experience Mas-

National Museum Institute of History of Art, Conservation and Museology

Janpath, New Delhi

Applications on plain paper giving full details of name, father'/husband's name, address, date of birth, educational and professional qualifications, experience, whether belonging to SC/ST Category with supporting documentary evidence, are invited for the post of Senior Projectionist in scale of pay Rs 4500-125-7000 (revised).

The post is reserved for Scheduled Tribe candidate (5th attempt) but SC candidates can also be considered if ST candidate is not found suitable

Age Limit : 33 years (including relaxation) for direct recruitment only.

Qualifications:

(i) **Essential** (a) Matriculation or equivalent examination, (b) Knowledge of handling and operating slide projectors, episcope and other photographic/audio visual equipments. Persons holding valid licence/technical trade qualifications shall be preferred

(ii) **Desirable** Five years experience of projection work in a Cinema/auditorium or a Museum of repute.

The application alongwith photocopies of certificates and passport size photograph duly attested should reach the undersigned **within 15 days** from the date of publication of this advertisement Person already in service should apply through proper channel. The post is to be filled up by direct recruitment failing which by deputation/contract basis The crucial date for determining the age limit shall be the closing date for receipt of application. Canvassing in any way will disqualify a candidate Persons who have applied in response to earlier advertisement, need not apply again

REGISTRAR

—davp 1151(5)97

Book of Significant Interest

Saptamātṛkā Worship and Sculptures

An Iconological Interpretation of Conflicts and Resolutions in the Storied Brāhmanical Icons

Shivaji K. Panikkar

(Perspectives in Indian Art & Archaeology, no 3) xxvi, 301 p ; Abbreviations Glossary, Bibliography, Index, 196 b/w Photographs, 29 cm

ISBN 81-246-0074-0 Rs. 1500

This book employs the multidisciplinary methodologies of art historical interpretation to contextualise nearly the whole range of Saptamātṛkā icons within the larger historical evolution of accultured Brāhmanical religion, mythology, theology and cultic developments. This study has gone beyond the accepted art historical procedures by incorporating questions of class conflict, gender representation, etc

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ters Degree with 55% marks with five years experience in Finance and Accounts in Govt./ University/Autonomous body Depending on the qualification and the Experience, the candidate may be appointed as Assistant Accounts Officer in the Pay Scale of Rs 2000-60-2300-EB-75-3200-100-3500

f) **ADMINISTRATIVE OFFICER (STORES)** One Post (at Mumbai Centre)

Pay Scale Rs 2200-75-2800-EB-100-4000

Maximum Age Limit Note more than 40 years as on 1 1 98

Minimum Qualification & Experience Masters Degree with 55% marks with five years experience in Purchase and Stores in Govt / University/Autonomous body

g) **STENO-CLERK** . One Post (at Indore Centre) **(Reserved for SC/ST)**

Pay Scale Rs 1200-30-1560-EB-40-2040

Maximum Age Limit Not more than 25 years on 1 1 98

Minimum Qualification & Experience A Bachelor Degree of recognised University with a minimum speed of 80 WPM in Shorthand and 40 WPM in Typing Three years experience of Stenographer in University/Govt./Autonomous body/reputed private firm Experience in computer operation is desirable

Note :

1. **All these posts are transferable among the Centres of this organisation.**

2 Provision for employing and giving relaxation in age to SC/ST/OBC candidates as per Govt policy.

3 Age relaxation to candidates working in this Institution/Govt departments may be considered

4 In addition to Basic Pay, other allowances like Dearness Allowance, H R A , C C A etc will be given as per rules of this Institution which are, in general, similar to the Rules for employees of Govt of India

5 IUC-DAEF reserves the right to appoint a candidate on a lower post in case suitable candidate is not found for a given post

How to apply :

Applications giving complete bio-data typed, strictly in the following sequence of information, on plain paper in duplicate along with copies of Degrees and with copies of Degrees and Experience Certificate and Crossed Demand Draft of Rs 50/- payable to "IUC-DAEF" at Indore must reach Administrative Officer, Inter University Consortium, University Campus, Khandwa Road, Indore-452 017 **on or before 30.03.1998 :**

(1) Post applied for, (2) Name, (3) Father's Name, (4) Permanent & present postal address, (5) Date of Birth, (6) Age as on 01 01 98 Years, Months, Days, (7) Whether SC/ST/OBC/PH/ Ex Ser/General, (8) Educational Qualifications (commencing from SSLC or Secondary level) giving details of Board, year, subjects, percentage of marks, division/grade, (9) Technical/Professional Qualifications giving aforesaid details, (10) Experience as an employee giving details in separate col about Name of the employer, designation, Pay Scales & gross emoluments, Period (**Years - Months - Days**), Nature of Duties, (11) Any other relevant information, (12) Details of Demand Draft, (13) Dated signature The applicant for post of Scientist should give details also about (1) Research Experience giving details as under 10, **Field** and about the papers published & presented, (2) Name & address of two referees under whom the person has worked

No application money is to be paid by SC/ST candidates provided proof of the same is submitted along with the application The envelope containing application should be superscribed **'Application for post of.....'**. Candidates already in Service should apply through proper channel If there are large number of applications, we reserve our right to call only limited number of persons for test/interview

Applications lacking in any of the requirements and applications received late shall not be entertained **Only Demand Drafts** will be accepted Canvassing in any form will be a disqualification Applicants shortlisted for test/interview will be informed at appropriate time No other correspondence/query will be entertained

ADMINISTRATIVE OFFICER

Indira Gandhi National Open University

Electronic Media Production Centre

Training Workshops-1998

Name Of The Workshop	Date	Number Of Participants	Target Group	Course Fee	Last Date Of Submitting Nominations
Advanced Lighting Techniques for TV Studio	15-17 March	10	Camerapersons Photographers/ Engineering Professionals	Rs 4000/-	28 February
Chroma Key	10-11 April	10	Camerapersons/ Engineering Professionals	Rs 3000/-	10 March
Presentation Techniques	17-18 April	12	Academics/ Production Professionals	Rs 2000/-	15 March
Orientation Programme for Planners & Administrators In Distance Ed	8-9 May	12	Senior level Executives/ Planners/ Administrators (Educational Institutions)		10 April
Graphics for TV	22-23 May	10	Graphic Artist/Designer	Rs 3000/-	20 April
Modular Set Designing	5-6 June	10	Set Designers	Rs 3000/-	5 May
Interview Techniques	12-13 June	12	Academics/ Media Professionals	Rs 2000/-	10 May

For further details contact : Director, EMPC, IGNOU, Maidangarhi, New Delhi-110 068

Telephones : 6868407/6857063/6857064/6857065 Fax : 6857079/6989076

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ANNOUNCEMENT

International Institute for Population Sciences, Mumbai, invites applications for the fifth batch of the Distance Education Programme leading to **Master Degree of Population Studies (MPS)** for the academic year 1998-99. The course is available in Hindi Medium too. Institute also invites applications from ***personnel from SAARC/ESCAP region countries.*** The essential features of the course are as follows :

(i) ***Degree to be awarded*** : Master of Population Studies (MPS).

(ii) ***Duration*** : Two years (since this course is being offered through Distance Education System, there is provision to complete the course requirements within four years of registration.)

(iii) ***Minimum qualification*** : A person having Masters degree in any of the relevant Social Science and Science subjects including Mathematics and Statistics, or Diploma in Population Studies from IIPS.

(iv) ***Number of seats*** : There are 30 seats available for the personnel from ESCAP and other countries. An equal number of seats are also available for applicants from India. However, the institute reserves the right to decide the number of students to be enrolled in each academic session.

(v) ***Detailed schedule of enrolment*** :

(a) *Last date of receiving completed application* : **April 30, 1998.**

(b) *Laste date of receiving the course fee* : **June 30, 1998.**

(vi) ***Application form*** : The application form as well as information brochure can be obtained on a written request to ***Dr. Ravi K. Verma, Head, Department of Extra Mural Studies,*** *International Institute for Population Sciences, Deonar, Mumbai-400 088. INDIA.* The written request should also accompany a demand draft of Rs. 50/- in case of Indian applicant (US$25/- for personnel from SAARC/ESCAP region countries) only, in favour of ***The Director, International Institute for Population Sciences***, payable at S.B.I., Deonar, Mumbai, INDIA.

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